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OVERSIGHT ON OCCUPATIONAL DISEASE RISK ASSESSMENT

ORIGINAL

HEARING

BEFORE THE

SUBCOMMITTEE ON HEALTH AND SAFETY

AND THE

SUBCOMMITTEE ON LABOR STANDARDS

OF THE

COMMITTEE ON EDUCATION AND LABOR
HOUSE OF REPRESENTATIVES

NINETY-NINTH CONGRESS

FIRST SESSION

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OVERSIGHT ON OCCUPATIONAL DISEASE RISK ASSESSMENT

WEDNESDAY, JULY 17, 1985

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON HEALTH AND SAFETY, AND
SUBCOMMITTEE ON LABOR STANDARDS,
COMMITTEE ON EDUCATION AND LABOR,
Washington, DC.

The subcommittees met, pursuant to call, at 9:30 a.m., in room 2261, Rayburn House Office Building, Hon. Joseph M. Gaydos (chairman of the Subcommittee on Health and Safety) presiding.

Members present: Representatives Gaydos, Murphy, Chandler, and Petri.

Staff present: Subcommittee on Health and Safety: Sy Holzman, deputy staff director; Lee Bassford, staff assistant; Subcommittee on Labor Standards: Thomas F. Lamb, Jr., staff director; Committee on Education and Labor: Dorothy Strunk, minority senior legislative associate.

Mr. GAYDOS. The committee will be in order.

This is a joint hearing. Mr. Murphy isn't here yet; we have a Democratic caucus; possibly he's over there. But we are going to proceed. You had the decency and the fairness to show up in time; we're going to move it on time. I have an opening statement, and we'll get right into the hearing.

It is becoming increasingly evident that many substances in the workplace are hazardous to the men and women who use and work with them, often resulting in immediate injury or death. But as we learn more about some of these substances, we find that the hazard is not always so immediate, that prolonged exposures can lead to death or debilitation from diseases that occur years after the initial exposure.

Those of us involved in the field of worker health and safety are already well aware of the long-term effects of occupational exposures on coal miners and asbestos workers. The question still to be faced is, what other substances in the workplace are liable to cause similar kinds of specific diseases after long periods of latency?

As we understand more about the effects of prolonged exposure to these substances which have been determined as disease-causing, we then must decide what is to be done and how to do it. The challenge will be to identify those worker populations that will be at the high risk of getting diseases because of exposures and to make them aware of the disease potential.

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What workplace substances can result in specific diseases that will be evident only after long periods of latency? What kinds of exposures can result in a disease? Are all workers, even those minimally exposed, threatened, or is it only those with direct and prolonged exposures who are at high risk in these circumstances? These are some of the many questions that we hope our witnesses will address today.

I want to make it clear that today's hearing is on the broad issue rather than on the bill, H.R. 1309. I hope our witnesses will save their comments on the bill until we actually begin hearings on that bill right after Labor Day.

Let me commend publicly and as a matter of record those that appear today as to their past performance and dedication to this subject matter. I've got to say—it's a self-serving declaration on my part—to most of the committee members that aren't here today, it was 15 years ago when we had no Occupational Safety and Health Act. We had a country that existed for approximately 200 years, and there was never an OSHA or simulation of it. We had, after a fashion, in the MSHA field, the old Mesa situation, which you are pretty familiar with.

To me, it seems like we are again breaking new ground. On the record, I want to state that there have been many, many men and women involved in this problem we have had. The committee couldn't have progressed without the help of our unions, our medical people, and some management representatives. I want to state that publicly for the record. It's because of the dedication of good men for a good cause that we have come so far.

In conclusion, let me state that, yes, I'm disappointed in the budgetary approaches to OSHA, as we have grown to know it, and MSHA, but I guess other areas have fared worse and turned out in worse shape budget-wise than we have, so maybe we should be grateful for what little we have received.

My quest, if you want to call it that, is to continue to put the pressure on to make sure that our act is better enforced, hopefully better administered, and hopefully more effective.

With those remarks, let me get into the first panel of witnesses at this time: Dr. Irving Selikoff, Mr. Milan Stone, Mr. Samuel, Mr. McCloskey, and Mr. Misbrener—our old friends in the movement.

Gentlemen, thank you. I'll let you fight among yourselves as to who is going to start first. I hope you have elected a leader among you, so he can be the moderator. I'm here to listen. Let's make the record good and clear. Again, I feel sorry for our colleagues that aren't here to hear the good words and the informed opinions of this distinguished panel.

Doctor.

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STATEMENTS OF HOWARD SAMUEL, PRESIDENT, INDUSTRIAL UNION DEPARTMENT, AFL-CIO; IRVING SELIKOFF, M.D., ENVIRONMENTAL SCIENCE LABORATORY, MOUNT SINAI SCHOOL OF MEDICINE; MICHAEL McCLOSKEY, CHAIRMAN, SIERRA CLUB; MILAN STONE, PRESIDENT, UNITED RUBBER, CORK, LINOLEUM & PLASTIC WORKERS OF AMERICA; JOSEPH MISBRENER, PRESIDENT, OIL, CHEMICAL & ATOMIC WORKERS INTERNATIONAL UNION; AND SHELDON SAMUELS, OSHA ENVIRONMENTAL EXPERT, INDUSTRIAL UNION DEPARTMENT, AFL-CIO

Mr. HOWARD SAMUEL. Mr. Chairman, I won the fight.

My name is Howard D. Samuel, and I appear, Mr. Chairman, before you in two capacities: One, as president of the Industrial Union Department of the AFL-CIO, which is a semi-autonomous affiliate of the AFL-CIO with 55 affiliates and approximately 5 million members.

I might add that the Industrial Union Department, long before I became its president, had been deeply involved in the issues of occupational safety and health and the environment and, of course, retains that interest and concern.

I also appear before you, Mr. Chairman, as coordinator of the OSHA Environmental Network, and if I could take a moment to describe the network for the record, it may be useful. The network was started not quite 5 years ago at a time when there were some in the labor movement and in the environmental movement who were convinced that the gulf between labor and conservation was so wide that it could not be bridged.

Over the years, we have found this was not so. We have found that the word "environment" and what it stands for applies not only to air and water and trees but also to people in their factories and shops, in their homes, in their communities. The chemical that does harm to workers in the factory usually ends up in our air or water, doing harm to everyone.

Perhaps the final and tragic proof of this came less than a year ago in Bhopal, India, and I doubt, Mr. Chairman, that there is anyone knowledgeable about these matters who doesn't know that it could happen here as well.

The OSHA environmental network is a coalition of 10 major environmental health and environmental organizations and two dozen national labor unions banded together through their membership in the IUD. We emphasize the building of local coalitions as widely as possible. So today there are active State networks in 26 States.

This week, we are meeting in our third convention, discussing and learning about such issues as Superfund, and right-to-know, the high-risk bill, and the issues which surround it, which is the subject of our hearing today.

If the committee permits, I'd like to introduce the other panelists at this time in the order in which they will speak. The first is Dr. Irving Selikoff of Mount Sinai Hospital in New York. I am not going to introduce Dr. Selikoff in any detail because I don't think he needs any introduction to anyone interested or involved in occupational safety and health.

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Our second speaker will be Michael McCloskey, who is now the chairman of the Sierra Club and also serves as the co-coordinator of the OSHA Environmental Network. He has been one of those who, I think, first came to an early appreciation of the links between the environmental movement and the labor movement.

Finally, we have two distinguished labor leaders, both of them leading affiliates of the IUD: Milan Stone, president of the United Rubber Workers; and Joseph Misbrener, president of the Oil, Chemical & Atomic Workers.

Dr. Selikoff will lead off first, Mr. Chairman.

Dr. SELIKOFF. Thanks very much, Mr. Samuel.

Since Mr. Samuel doesn't think I need an introduction, it will save a few minutes. I would like to use those minutes to express my thanks to this committee and to Mr. Gaydos.

These are not really perfunctory thanks. I know everybody that sits at a table like this generally thanks the committee for being allowed to express an opinion and so forth. Here I have special thanks as a scientist because of what you are doing with this hearing and this approach.

Let me explain. About 100 years ago, a revolution occurred in medicine. Until that time, for centuries medicine was largely descriptive. We had many excellent scientists who described the hard liver of cirrhosis, the destroyed adrenal gland of Addison's disease, and so forth.

One hundred years ago, following the initial work of Pasteur and Robert Koch, a new understanding began, and we are right in the midst of it still. It was found then that very serious human disease could be caused by things outside of us. The tubical baccilus caused tuberculosis; summer diarrhea, which took many children, was found to be due to a variety of enteric bacilli; and cholera was found to be due to a vibrio, and so forth; so that we began to think of causes of disease. This was terribly important, because almost immediately it was found that when we could identify things that caused disease, we were able to prevent them.

For example, we put in clean water supplies, sewer systems, vaccination, pasteurization of milk, so that it became rapidly apparent that if we could find the causes of disease, we could help prevent that disease and prevent death.

After World War II, a second phase of this revolution began. Until then, it was primarily infectious causes of disease. After World War II, the pace quickened to allow us to identify noninfectious causes of disease.

We all remember the great studies of the American Cancer Society with regard to what cigarette smoking was doing, the work with regard to a whole variety of agents in the workplace, coal dust in mines, accilica in mines, accilica in factories and in mines, asbestos in the construction industry, the chemical plants with uncontrolled exposure to a variety of chemicals leading up, in fact, to vinyl chloride and so forth.

Yet the scientists remained troubled and still are. You may wonder why. Well, there were three phases to what existed. The first was, we could identify things that killed people, caused disease; second, we knew how to find these—the epidemiological

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methods, the population studies, the laboratory investigations, and so forth.

So here we were, able to find what was causing disease, knowing that when we found these things it would help prevent those diseases.

The third phase, however, was never completed, and that was to use the knowledge that we now had and could have and will have. This was very worrisome because, after all, why did labor unions and labor groups participate in studies to find causes of disease if not to save the lives of their members and people whom they represented? What did industry hope for? The same thing—to save lives—and certainly this was the goal of scientists.

Yet here we were, people who were exposed to coal dust still dying of coal workers' respiratory disease, people exposed to arsenic still dying of lung cancer, nobody doing very much about it, asbestos workers dying of mesothelioma and lung cancer and asbestos just as if we had not done 50 years of research, silicosis taking many people as they had respiratory infections, people dying of bladder cancer having been previously exposed to benzidene and beta-Napthylamine, and it is a very disheartening situation. We are not using the information that we have. That's almost worse than not having the information.

Therefore, your perspective now of developing surveillance of high-risk groups is exactly what scientists have been looking for. In our naivete, we thought we were the ones that might be able to do this. Obviously it's not merely a scientific problem, it's a social problem, it's a political problem. It's certainly not a problem that the public health system in this country has been geared to. We have never in our public health development undertaken to keep under surveillance large numbers of people in order to develop early diagnosis, and early treatment, and so forth.

So what you are doing then is terribly important for scientists. It completes the work that we are doing, that we have done. So from our point of view, we are delighted. Obviously, there's even a greater rationale. The lives that we wanted to save, that industry wanted to save, that labor wanted to save will now be able to be saved if you are successful. I'm not sure you are going to be successful. There are many problems, but you are aware of these and so forth.

Now, one of the things that I was asked as I came here was, what is a high-risk group? Well, how high is up? How big is big? A high-risk group could be those groups in which 100 percent will die, or 50 percent, or 30 percent, or 10 percent, or 5 percent.

I like the way that you have approached this in that "high risk" is an elastic phrase. The lower limit is the limit set by scientific ignorance. We can't tell you, for example, in large groups whether a 20-percent increase is a real increase or whether it might be a statistical fluke. We certainly can tell you when it's 30 percent.

So we have set a lower limit for you at least at this time. Five or ten years from now we may be able to do better, we may have more sensitive and more specific methods. Certainly we can tell you when there's a 50-percent increase, a 100-percent increase, and we won't be wrong, so that we can tell you what the high-risk groups are.

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Well, within these high-risk groups, is everybody equally at risk? No, not everyone. One of the things we have learned in these past years has been that there is an important dose response relationship. That is, for example, with asbestos, the more asbestos, the more lung cancer; the less asbestos, the less lung cancer. Since we know the people who have been exposed, we can even tell you who is at greatest risk.

So your concept of a high-risk group can then be comfortable in saying, well, let's use whatever resources we have, and we'll go to the top, and then if we have more resources we go to the next group, and all the time we can insist on more and more resources so that the high-risk group will include virtually everyone who is at very significant risk.

Second, I notice that you have been discussing the right to know. That's a very popular approach now around the country, and I would submit that it's perhaps at least as important as high-risk group surveillance, because when workers are told that they have been exposed and they are being exposed, two things happen.

First of all, they do more than all the industrial hygienist can do in seeing to it that exposure ceases or diminishes, because they know the jobs at which they work. So exposure tends to decrease or stop once we allow people to know the problems that they face.

Second, we have an excellent medical profession in this country, and if workers can tell their physicians that, "I've been exposed to" this or that or the other thing, physicians know what to look for, can seek early diagnosis, and can help in optimum care. In fact, we may even in some cases reverse the risk.

An asbestos worker who stops smoking, for example, after 5 or 10 years or so has only about one-third or one-half the risk compared to asbestos workers who don't stop smoking. If we then have surveillance with physicians able to explain this to workers who have been exposed—and it's true, for example, for uranium miners as well and other groups—we can reverse the risk; we can avoid the consequences of our mistakes of the past.

So the points that you have tackled—that is, right to know and the development of surveillance of high-risk groups—are exceedingly important for scientists. Therefore, I think you can understand now the reason for my thanks to you not only on my own behalf but on behalf of many scientists who have been working in the field to avoid occupational and environmental disease and death.

Thank you very much.

[The prepared statement of Irving J. Selikoff follows:]

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Prepared Statement of Irving J. Selikoff, M.D., Mount Sinai School of Medicine of the City University of New York

My name is Irving J. Selikoff. I am a physician at the Mount Sinai Hospital, New York and Professor Emeritus of Medicine and of Community Medicine at the Mount Sinai School of Medicine of the City University of New York. As a guide to my interests, I would mention that I am Editor-in-Chief of the American Journal of Industrial Medicine and Editor-in-Chief of "Environmental Research." I serve as director of the Universities' Educational Resource Center for Occupational Safety and Health for New York and New Jersey and am President of the Collegium Ramazzini. I am currently Governor of The New York Academy of Sciences, as was previously President of the Academy. I hold the Lasker Award of the American Public Health Association for Research in Medicine, have been a member of the National Cancer Advisory Board (National Cancer Institute) and have been given the National Research Award of the American Cancer Society.

I am grateful to you, Mr. Gaydos, and to your committee, for permitting me to appear here. There are two principal reasons for this, one general and one specific.

First, I share with you and with many others the overall goal of prevention of disease and death. The bill you are discussing today is another, a most important, step in a journey that began a long time ago. However, its pace has quickened recently for reasons that I will review, and now permeates much of what our country and our government does. On reflection, how better can we explain the EPA, OSHA, the NIH, the FDA and HHS? Ultimately, how better may we understand the devotion and concern of the surgeons and physicians who this past week at Bethesda applied hard won skills to secure the President's life, a task in which they had everyone's supported good wishes.

To place what I've just said in perspective, we may remember that, in 1921, Sir William Osler, a great American physician, analyzed the progress of medicine from its beginnings, from its origins as a mixture of magic and religion. Reflecting, he was very optimistic about the future. First, he noted, medicine's roots lay in the innate human desire to prevent suffering, to offer succor and help, an instinct as well programmed into our genes as that of self-preservation. Throughout human history, this nutured the development of medicine during its centuries of learning to describe and identify disease, and supported the great nursing orders that provided as much help as they could to the ill, the weak and the helpless. But Osler

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saw something more. Perceptively, he concluded his History of Medicine with the comment that we were now entering the final, most important phase of medicine--that of the prevention of disease.

This had begun in Osler's lifetime. The great discoveries of Pasteur, Robert Koch and others demonstrated that serious human disease--tuberculosis, child-bed fever, typhoid, enteric infections, rabies, were caused by identifiable agents in the environment in which we live. Too, such identification allowed measures to be considered that would prevent the infections--clean water supplies, sewer systems, pasturization of milk, vaccination. For the first time in the history of medicine, we began to think in terms of how disease could be prevented, not merely described.

We thus entered the 20th century with a new perspective in medicine and science--finding causes of disease with the aim of avoiding them. Indeed, in the first three decades of the century, additional progress was made--we learned that diseases could be caused by absence of important factors, such as vitamins. It is instructive to remember that it was only in 1916 that Goldberger of the U.S. Public Health Service discovered the avitaminosis that resulted in pellegra, that only in 1923 did Banting and Best discover that the absence of insulin resulted in diabetes.

A giant step forward came after World War II when the infectious agents and the deficiency diseases was added the evidence to that non-infectious agents could also cause major disease, that chemicals, dusts, fumes, radiation could produce ill health and death.

Sir Richard Doll recently wrote that at the time of World War II most people considered that cancer was an inevitable accompanyment of age and that other serious diseases would also unavoidably intrude on our later years. However, with the research that was done in the 1950's and 1960's, with the investigations that demonstrated the extraordinary disease impact of cigarette smoking, of the cancer potential of asbestos, arsenic, plutonium, nickel, benzidine, vinyl chloride, etc., there was by the mid-60's gradual appreciation both by scientists and the general public that much chronic human disease came from things in our environment--personal lifestyle, occupational exposures,

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community pollution--what we inhaled, ate, drank, how we lived and worked.

Reflecting this understanding, it is not surprising that one of the questions recently raised by our President's illness has been "I wonder what caused it?" and "What should one do to avoid this disease?"

But I have a second, more specific reason to be thankful to you, Mr. Gaydos, and to your committee.

The Bill you have prepared and are considering is focuse on a major problem derived from this past one hundred years of scientific research and medical advance.

The research led to three concepts. First, we learned how to identify causes of disease, the methods necessary to sort them out in the complex world in which we live. Epidemiological methods have been extended and refined--one might point to the current prospective study of the American Cancer Society, in which 1,200,000 Americans are enrolled, to learn further the causes of disease among us. There is now a remarkable new array of laboratory techniques in which molecular biology and biochemistry have been added to the classical in-vitro and in-vivo methods that have been developed. We can look with confidence to the future for finding causes of disease; the next 10 to 20 years will bring many wonderful discoveries in this regard.

Second, we have already collected much information about specific agents. For example, with what we now know about vinyl chloride, thorotrast and arsenic, angiosarcoma of the liver can be largely eliminated from our world. With what we now know about asbestos, mesothelioma can again be retired to the textbook curiosity it was 100 years ago. With what we know of cigarette smoking and chemicals, bladder cancer can in very many cases be prevented. Knife grinders need no longer suffer silicosis nor smelter operators, serious lead disease. There will be fewer cases of leukemia as we enlarge our list of known causes. There are 85 cardiotoxins found in recent criteria documents and one can hope that what we are learning of diet and other factors, that

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the toll of heart disease will continue its sharp decline of recent decades. We will find the causes of Alzheimer's disease, of disabling arthritis.

In the third aspect of their work, however, scientists have so far, in many cases, failed. I refer to the fact that we have unfortunately lagged in using the information we have gained and are gaining. Nowhere is this more clearly seen than in environmental and occupational disease, areas in which one might have expected the greatest success in the use of information. In contrast, they have turned out to be the least successful and least rewarding.

I must confess that scientists, in making their projections, were perhaps naive. Still, they had good reason, in their own experience. Thus, when the various causes for dysentery were worked out, there was general approbation and we used the information they gave us to provide sanitary conditions. When bovine tuberculosis was clarified, tuberculosis-free herds of cattle were developed, as well as effective pasturization. Vitamin supplementation followed discovery of the avitaminoses. There was, in other words, wide approval of scientists who identified causes of such disease.

The situation was not so simple when studies began of non-infectious agents. In the 1930's and 1940's, there was no rush to applaud the scientists who clarified the cancer-producing properties of beta-napthalamine and benzidene. Stony silence often greeted those who demonstated that working with asbestos could produce lung cancer, mesothelioma, asbestosis. Industries associated with lead exposure of workers mounted dogged rearguard actions, opposing those who argued that lead disease need not exist. We knew in 1948 that vinyl chloride could affect the heart, liver and other organs, yet it was not until 1974 that the Department of Labor decreed that worker exposures should no longer be for example, 350 or 500 or 3,000 ppm, but rather no more than 1ppm. Arsenic smelters provided uncontrolled exposure not only to their work force, but to communities around. To this day, mercury exposure occurs, sometimes to fatal extremes. Benzene exposure is a daily occurrence in many of our nation's plants, service stations, and even in the use of consumer products--and benzene-induced leukemia continues to occur.

I suspect that scientists have failed because they approached the problem

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of implementation of knowledge gained as a scientific matter. We did not realize that was rather only in part scientific but at least in equal part a political and social problem. When the new knowledge was to be used, there sometimes were unanticipated effects. If vinyl chloride workers were to be protected, there would have to be investment by the chemical industry to install safeguards. The hundred year old design of secondary lead smelter works would no longer suffice. Silica dust could no longer be disregarded in mines and benzene might have to be replaced in adhesives. Not all firemen could wear respirators, lest fatal heart attacks occur.

The question has been posed: How can we utilize the knowledge that we have? That is the background for my appreciation of what you are doing, in proposing HR1309. As I study the bill my appreciation increases.

First, it is intensely practical. Our resources are limited and there is so much to be done. The Bill directs our attention, it asks us to try to prevent disease for those at greatest risk where, in other words, our limited resources would achieve the greatest preventive success.

The Bill is practical in another way, in addressing high risk groups. Ten or fifteen years ago, this might not have been the case. However, in the past years, in our studies to identify causes of disease, we have simultaneously identified those groups which were exposed to the agents in question. Moreover, in analyzing these groups, we rapidly became to understand that most of the agents in question follow a linear dose response relationship, i.e., the more exposure, the more disease, the less exposure, the less disease. In the uncontrolled conditions of the past, many of the working people involved were very heavily exposed. We now know who they are, the likely disease to be anticipated. We know, in other words, who are at the greatest risk! Since we simultaneously know the diseases that will occur, we can apply modern medical knowledge to early diagnosis and, in many cases, early, effective treatment.

The definition of "high risk" is somewhat elastic, of course. Anyone who develops disease that would otherwise not occur could properly consider himself at "high risk" as an individual. Nevertheless, from a public health

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point of view, medical surveillance at this time, with current resources, cannot address all those who were exposed. For example, there are now alive 21 million American workers who, from 1940-1980, were significantly exposed to asbestos in our shipyards, construction industry, refineries, chemical plants, powerhouses, factories, insulation work, on shipboard, etc. Some were more heavily exposed than others. Among the groups as a whole, we anticipate approximately nine thousand excess deaths of cancer, as well as deaths of asbestosis, will occur each year. Most of these will occur among the more heavily exposed individuals. It is here that surveillance can produce the best results. "High risk" therefore refers to groups or populations, oftened segments of industry-wide work forces.

As we estimate risk, we understand that our statistical and epidemiological techniques are relatively insensitive. We cannot, for example, confidently predict increases in risk of 10% or 15% or, in most cases, 20%. The risk may be there, but our techniques are not sufficiently sensitive and specific to be sure of "high risk" designation. Rather, when our calculations indicate that the excess risk is 30% beyond what it would ordinarily be for a group such as that in question, we are very unlikely to be wrong and as the risk increases to, for example, 100%, the possibility of error is small indeed.

As time goes on, our calculations may be more exact and more sensitive and we may even learn how to use--and we must--laboratory research to supplement or perhaps supplant population-based epidemiological studies. These are matters that scientists are presently debating. Yet these discussions can go on side by side with the medical surveillance that now can be effective in saving lives among high risk groups.

Which brings me to the next important point, again a perspective of HR1309.

The phrasing of the Bill in relation to high risk groups is useful in another way. The elasticity of the definition permits us to apply available resources to the maximum. The exact number of individuals to be involved will depend upon the decisions that will be made concerning availability of resources and the feasibility with which the surveillance mechanisms can be established and applied. An example can be given. We have very limited knowledge concerning

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the number of people afflicted with silicosis in the United States; the Public Health Service has done a few studies concerning this since the mid-1950's. Nevertheless, it would be perfectly logical to seek surveillance for those known at present to have been heavily exposed, while, in additional studies, evaluating other groups with regard to their disease status.

The known "high risk" silicosis groups would then be followed. It could be anticipated that many lives would be saved within these groups since most patients who die "of silicosis" do not lose their lives because of inexorable continual progression of the disease ending with pulmonary tissue inadequate to sustain life. Rather, they die because they have silicosis, that is, they have limited reserve if they suffer a superimposed pulmonary infection, acute cor pulmonale may supervene and cause death. However, if they are under surveillance, adequate antibiotic therapy is available for the superimposed pulmonary infections. This can tide them over their acute difficulties, so that they may return to their previous state.

The same is true for asbestosis. Indeed, estimates indicate that approximately 15-20% of those who die because of asbestos-associated disease could be saved if we were to apply what is currently known in properly conducted medical surveillance programs.

I mention that we can achieve at least partial success with what we now know. I would immediately add that surveillance of high risk groups would have the additional advantage of "forcing" advances in medical management and treatment. Clinical observations would provide not only new knowledge concerning the clinical course of the disease in question but would provide opportunity for testing new treatments and for application of advances being made in other fields in medicine and science to the problems faced by the high risk groups. Thus, there is presently no known treatment for asbestos-induced mesothelioma--but, also, there is virtually no research to develop such effective therapy! As a result, two-thirds of patients with mesothelioma are dead within a year of onset of symptoms.

Surveillance of high risk groups would not only include early diagnosis and earlier treatment, but would permit the educational aspects of management

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programs to be effective. Thus, cigarette smoking adds to the burden of pneumoconiosis and certainly greatly increases the risk of lung cancer among asbestos-exposed workers; uranium miners and others. Explanation and assistance with regard to smoking cessation could be facilitated.

In conclusion, I turn now to an aspect of the problem in which perhaps underlies the entire development of the bill you are considering.

The scriptures tell us that the sanctity of life reflects the highest ethical requirements. To maintain life and to avoid death that can be prevented is a moral and ethical obligation for all of us.

Since it is now known that we can provide medical care precisely to people who can benefit from it ("high risk groups") the question arises whether not to do so is dereliction of our duties as citizens.

Two aspects can be considered. First, we now know that among asbestos workers who stop smoking, the risk of lung cancer decreases to approximately one-third to one-half of those who continue to smoke. People who have been exposed to asbestos therefore have, it would seem to me, the "right to know" that this is so. They can then consider whether or not they wish to undertake those actions (cessation of smoking) that would decrease their risk. Notification that they have been exposed to asbestos and information concerning the risks that they have, and the means to diminish that risk are, in this sense, ethical questions. Whether we inform people of risks can ultimately be thought of as a decision that will determine, in many cases, whether people will live or die.

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Mr. GAYDOS. Doctor, before we go to the next panel member, let me say that the committee is quite honored to get on record such a man of your prominence and your dedication in your chosen field and profession. I want you to know that.

Dr. SELIKOFF. Thank you.

Mr. GAYDOS. We appreciate your coming down here.

Mr. McCloskey, are you next?

Mr. MCCLOSKEY. Yes.

Mr. GAYDOS. OK.

Mr. MCCLOSKEY. Mr. Chairman, I am both the cochairman of the OSHA Environmental Network as well as the chairman of the Sierra Club. I'm pleased to represent the Sierra Club in this first hearing on legislation that is long overdue.

The tradition of the club includes support for the rights of everyone to information on the names, effects, places of exposure, uses, and methods of prudent control of toxic agents to which any of us may be exposed.

We have never understood and never accepted the system of values that has created a cast of workers deprived of these fundamental rights. In large part because society does more research on cancer than other diseases, the bill before you focuses on helping potential victims of occupational cancer. In this regard, the bill offers a very rational approach that is a graduated approach and response.

It's likely that everyone has been and is being exposed to carcinogens and other toxic agents in the workplace, in the community, and at home, but is it true to assert that we are all at high risk and in need of medical surveillance? Well, we believe the answer is no. If everyone is at risk, everyone should be taking measures to prevent and intervene in the occurrence of environmentally associated disease.

Our system of environmental regulation, health promotion, and personal health care must realistically assume that we do not and cannot live in a riskless void. Zero risk is an illusory goal. But everyone need not be covered by special programs, only those who are at increased or high risk.

Reduction of the exposure to carcinogens is a continuing process of education, technical assistance, and enforcement that leads to prevention, and this is the task of OSHA, EPA, and other regulators of the environment.

At the same time, we are told programs of medical surveillance need to be initiated because we will never be able to create that safe bubble that can only occur if regulations were perfect in the past and now and in the future. Thus, medical assistance is imperative for workers at increased risk or high risk during the latent period in the development of disease between first exposure and the onset of clinically obvious disease for millions of Americans.

We know that hundreds of thousands of our citizens who are now known by the Federal Government through their own studies to be at increased or at high risk of disease associated with work have never been notified or offered the least bit of assistance, not even advice, as to the nature of their risk and what they can do to prevent that risk from becoming manifest.

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But that's just the tip of the iceberg. It is shocking to learn that there is strong, uncontroverted evidence of cancer incidence associated with on-the-job factors for more than 60 populations of largely uninformed workers ranging in size from less than 1,000 to more than 3.5 million men and women. Eighteen of these populations are exposed to factors designated at the highest category of concern as human carcinogens by the super-cautious World Health Organization. This is based on research published going back to a decade or more ago These populations have risks 10 times or more than normal populations. They unquestionably contained workers who died without the chance that notification, and thus early detection, can often provide. These human beings have, in effect, been condemned to death by the code of silence that now prevails in our Government on this issue.

I should add that cancer is only one disease with which we should be concerned. Afflictions of the lung, kidney, nerve, and blood forming in immune systems, as well as the big killer—heart disease—are also important and should be addressed.

In conclusion, it is important to understand that we are dealing with issues here that are critical; we are dealing with questions of life and death. Failure to inform these workers of their risks inevitably must result in unnecessary death and suffering. No segment of our Nation has been afflicted more by environmental disease than have our workers. I want to underline that the Sierra Club and other environmental groups are extremely concerned with those who are exposed to these substances in the workplace.

None of our population has been kept in the dark as much about the causes and courses of action that must be taken. The time has surely come for this injustice to be rectified.

Thank you, Mr. Chairman.

[The prepared statement of Michael McCloskey follows:]

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Prepared Statement of Michael McCloskey, National Chairman, Sierra Club

Mr. Chairman, members and staff of the Committees: I am pleased to represent the Sierra Club in this first hearing on legislation that is long overdue. The tradition of the Club includes support for the rights of everyone to information on the names, effects, places of exposure, uses, and methods of prudent control of toxic agents to which any of us may be exposed. We have never understood, and have never accepted, the system of values that has created a caste of workers deprived of these fundamental rights.

More than a decade ago, we supported the right of members of the Oil, Chemical and Atomic Workers in the employ of Shell Oil Company to have access to their medical records. We worked with the labor movement, especially with the AFL-CIO Industrial Union Department, in the development and passage of the Toxic Substances Control Act. We supported the labor movement's struggle for an equitable and effective OSHA Hazards Communication Standard. Through our support for community wide right-to-know laws in the states, we are attempting to assist the labor movement with a remedy to the current, weak OSHA rule.

The Club has joined with the Industrial Union Department and its affiliates, through the OSHA/Environmental Network, in a campaign to pass that version of Superfund, the Florio bill (H.R. 2560), which would extend the right-to-know to all communities near manufacturers that use and discharge toxic chemicals. And now we join hands once again with the labor movement in another right-to-know issue.

In large part because society does more research on cancer than other diseases, the bill before you (at least initially) focuses on helping potential vicitms of occupational cancer. In this regard, the bill offers a very rational approach: a graduated response.

It is likely that everyone has been, and is being exposed to carcinogens and other toxic agents in the workplace, in the community, and at home. But is it true to assert that we are all at high risk and in need of medical surveillance? The answer is "no."

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If everyone is at risk, everyone should be taking measures to prevent and intervene in the occurrence of environmentally-associated disease. Our system of environmental regulation, health promotion, and personal health care must realistically assume that we do not and cannot live in a riskless void. Zero risk, is an illusory goal. But everyone need not be covered by special programs, only those at increased or high risk.

Clearly, there is a need to graduate our reactions to environmental hazards. Thus, there already is a silent consensus that we reduce, but do not attempt to eliminate, "natural" carcinogens in food (such as aflatoxin in peanuts and grain) or culturally-impacted carcinogenic mixtures such as fumes from woodburning stoves.

Once we identify an exposure, we are able to identify a population. For example, aflatoxin exposure is associated with eaters and processors of peanut products. They are all at risk. But only processors of peanuts may be (this appears not to be defined or studied) at increased or high risk.

Reduction of the exposure to carcinogens is a continuing process of education, technical assistance, and enforcement that leads to prevention. This is the task of OSHA, EPA and other regulators of the environment. At the same time, we are told, programs of medical surveillance need to be initiated because we will never be able to create that "safe" bubble that can only occur if regulations were perfect in the past, now, and in the future. Thus, medical assistance is imperative for workers at increased or high risk during the "latent" period in the development of disease between first exposure and the onset of a clinically obvious disease for millions of Americans.

We know that hundreds of thousands of our citizens, who are known by the federal government -- through their own studies -- to be at increased or at high risk of disease associated with the work, have never been notified or offered the least bit of assistance, not even advice, as to the nature of their risk and what they can do to prevent

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that risk from becoming manifest. But that is just the tip of the iceberg. It is shocking to learn that there is strong, uncontroverted evidence of cancer incidence associated with on-the-job factors for more than sixty populations of largely uninformed workers, ranging in size from less than a thousand to more than three and a half million men and women.

Eighteen of these populations are exposed to factors designated at the highest category of concern as human carcinogens by the supercautious World Health Organization, based on research published a decade or more ago. They have risks ten times or more than normal populations. They unquestionably contained workers who died without the chance that notification, and thus early detection, can often provide. These human beings have, in effect, been condemned to death by the code of silence that prevails in our government on this issue.

Cancer is only one disease with which we should be concerned. Afflictions of the lung, kidney, nerve, blood-forming and immune systems, as well as the big killer -- heart disease -- are also important. Eighty-nine cardiotoxics -- agents of heart disease -- have been identified by the National Institute for Occupational Safety and Health, and other agencies. Far from informing and assisting these candidates for bad hearts and shortened lives, the governemnt's code of silence has also reached into the federally-financed heart disease education programs conducted by the National Heart, Lung and Blood Institute, in which the occupational factor has been consciously excluded from most (if not all) information programs and materials.

In deciding which of these populations should be selected for assistance first, the bill creates a system of risk assessment. Many of us in the environmental movement have questioned the use of risk assessment techniques because of their use by the goverment in appropriate cost/benefit analyses. The use proposed here is quite different.

A recent report of the National Cancer Advisory Board, which I am

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attaching for inclusion in the record of these hearings, specifically refers to appropriate use of benefit/cost analyses in the selection "of populations for special programs of medical screening, education and intervention." Moreover, I am pleased to note, the bill creates procedures for its application, consistent with the recommendations of the Cancer Board (which themselves are consistent with the recommendations of the national Academy of Science).

In conclusion, it is important to understand that we are dealing less with critical issues. We are dealing with questions of life and death. Failure to inform these workers of their risks inevitably must result in unnecessary death and suffering. No segment of our nation has been afflicted more by environmental disease than have our workers. None have been kept in the dark as much about the causes and courses of action that must be taken. The time surely has come for this injustice to be rectified.

Mr. GAYDOS. Thank you, Mr. McCloskey.

Mr. Stone.

Mr. STONE. Mr. Chairman and members of the subcommittee, my name is Milan Stone, and I'm the president of the United Rubber, Cork, Linoleum & Plastic Workers of America. I'm also vice president of the AFL-CIO Industrial Union Department and serve on its Committee on Health, Safety, and Environment, on whose behalf I testify today.

At the outset, let me say that my union, the Industrial Union Department, and its 55 affiliates strongly support H.R. 1309, the High-Risk Occupational Disease Notification and Prevention Act. We urge you and your respective subcommittees to consider this legislation as expeditiously as possible. We believe that this bill is an essential component in successfully addressing the complex set of problems associated with occupational disease in the United States.

As you are well aware, millions of workers are regularly and needlessly exposed to toxic chemicals, wastes, fumes, dust, and industrial processes as an integral part of their jobs. Over time, such exposure causes a variety of occupationally attributable diseases such as cancer, heart disease, nervous and brain disorders, reproductive damage, miscarriages, birth defects in workers' children, and a host of others. For the most part, death and disability emanating from these occupational diseases are not compensated by the existing State-based workers' compensation systems. But that is not the focus of this bill. No organized program exists to assist those workers in the hope of preventing their suffering.

The exposed worker populations include millions of workers exposed to cancer-causing substances or processes, including 3 million workers exposed to benzene with a risk of leukemia up to five times greater than normal; 2.5 million workers exposed to asbestos, many with a risk of lung cancer five times greater than normal; 1.5

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million workers exposed to arsenic, many of whom have a risk of lung cancer often two to five times greater than normal; 725,000 workers exposed to chromium and chromate pigments, some with a risk of cancer five to nine times greater than normal; 1.4 million workers exposed to nickel, some with a risk of cancer 5 to 10 times greater than normal.

Examples of other noncarcinogenic but nevertheless dangerous workplace exposures include 89 agents of heart disease identified by the National Institute for Occupational Health and other agencies, 1 million women workers of childbearing age exposed to chemicals that cause miscarriage and birth defects, 1 million workers exposed to silica dust at risk of lung disease, and 800,000 workers exposed to cotton dust at risk of brown lung disease.

These and many other hazardous workplace exposures take a terrible toll on American workers. Some 100,000 die and another 1 million may be disabled each year from occupational disease. Indeed, of all the cancers that occur among blue-collar workers in the United States, at least 25 percent are caused by workplace exposures. Moreover, family members of exposed workers also suffer higher rates of disease.

For example, the children of paper workers may suffer higher rates of brain cancer than children of nonpaper workers, and family members of asbestos workers suffer higher rates of mesathelioma, a cancer of the chest and stomach lining that is extremely rare in nonasbestos-exposed populations.

We are attaching for the record two registers that we maintain of carcinogens, cardiotoxins, and estimated populations at risk.

In terms of the relationship between toxic workplace exposure and occupational disease, I would like to make the following observations.

First, there is a period of time between exposure and the onset of disease when it is often possible to medically intervene in the biological process of disease to either prevent or, by early detection, successfully treat many disease conditions.

Second, we already know that there are a number of identifiable occupational populations that are at risk of developing diseases because of hazardous occupational exposures.

Third, there is a critical need for a national program for identifying, notifying, counseling, and medically monitoring worker populations at risk of occupational disease.

Fourth, workers have a basic and fundamental right to know that they have been exposed to an occupational hazard and are at risk of contracting an occupational disease.

Finally, through prevention and early detection of occupational disease, the staggering costs of medical treatment and care in the United States can be substantially reduced. Thank you very much.

STATEMENT OF JOSEPH MISBRENER

Mr. MISBRENER. Mr. Chairman and members of the subcommittee, my name is Joseph Misbrener, and I am the president of the Oil, Chemical & Atomic Workers International Union, and, as my colleague, Milan Stone, I'm also a vice president of the AFL-CIO Industrial Union Department.

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Mr. Chairman, I have a prepared statement which you have before you, and rather than go through that, I'd like to give some off-the-cuff remarks that come about as a result of my own experience with our union and its membership.

Mr. GAYDOS. Without objection, your prepared statement, Mr. President, and all the panel's prepared statements, as submitted, will be made part of the record, and you proceed in the manner to best suit your purposes.

Mr. MISBRENER. Thank you very much, Mr. Chairman.

I think the name of our organization speaks for itself when it indicates the kind of hazards that the people we represent and the workers we represent are faced with. The oil refining industry, of course, in the manufacture of gasoline and other petroleum products certainly does represent risk. The chemical industry and the atomic industry, I think, all portray risks that come vividly to mind with all of us.

Howard Samuel referred to the tragic incident at Bhopal, and the question that arises in many people's minds is, during the fervor that followed that incident, could that actually occur in the United States? I would submit to you, Mr. Chairman and members of the subcommittee, that it already has happened. I can't give you—nor can anyone, for that matter—a precise body count, but the illnesses and deaths each year in this country caused by the production and use of arsenic, asbestos, benzene, coal and cotton dust, silica, toxic dyes, uranium, vinyl chloride, and other hazardous chemicals number in the hundreds of thousands.

A complete history of the U.S. mining, oil refining, foundries, mills, and farming, along with many other industries would show a huge casualty list. Yet this kind of chemical warfare against American people and American workers has, we believe, gone largely unanalyzed. It's usually considered incidental to the cost of industrial growth or played down as hysteria of the moment.

The question, I guess, at least in my mind, is when we will wake up to the reality of the situation we face. This is not a new phenomenon. It is one that perhaps has not been recognized to the degree it should be until now. As early as 1908, Dr. Alice Hamilton recognized and began investigation of lead and other industrial poisons and began fighting against and urging for something to be done.

In 1924 in the industry that I represent, the oil refinery workers were going into convulsions and dying of loony gas—tetraethyl lead. Sixty years ago, insurance companies recognized the danger of asbestos and refused to issue insurance to asbestos companies. Yet only recently has asbestos received the kind of public recognition as a major cause of cancer.

I submit to you, gentlemen, this is a costly consequence of making worker health information a privilege of private ownership. Field, factory, and warehouse workers throughout the world are exposed daily to lethal chemicals about which they may understand very little except that their eyes may tear, they cough harshly, they suffer recurring rashes and headaches.

In spite of the hard won laws of the 1970's—as an example, the Environmental Protection Act, the Occupational Safety and Health Act, the Federal Insecticide, Fungicide, and Rodenticide Act—man-

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ufacturers still resist the procedures required by these laws, claiming they interfere with the progress and profits. They insist that the ingredients of their products are proprietary information and that disclosure of such trade secrets would upset competition.

Periodically, in the wake of some dramatic shock to public conscience—Three Mile Island is an example and Bhopal—and most recently, I think, and most vividly in the minds of everyone right now is the question of the President's cancer, and should he not have been given tests much earlier, all kinds of tests, to ensure that the growth of the cancer in his body could be prevented.

I would submit to you, as much as we all have a great concern for the President, that he is, after all, a human being, and is he entitled to any greater care or greater research than any other individual in this country as a citizen?

These incidents, of course, arouse the public conscience. The issue of prevention, the issue of knowledge is again rediscovered, as it is periodically, and we demand greater corporate responsibility and more stringent public regulation. However, we all know that once the fervor subsides we again lapse into the lethargy and the luxury of waiting for something else to happen to again stir us.

Mr. Chairman, the legislation that you and your colleagues have introduced will go a long way toward addressing the occupational disease problem in the United States.

Again, Mr. Chairman, in conclusion, I believe that I speak for everyone here by saying that we congratulate both of you for assuming the leadership on this issue. H.R. 1309 is a good bill, and we look forward to working with you to enact it into law.

Thank you, Mr. Chairman.

[The prepared statement of Joseph M. Misbrener follows:]

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PREPARED STATEMENT OF JOSEPH M. MISBRENER, PRESIDENT, OIL, CHEMICAL & ATOMIC WORKERS INTERNATIONAL UNION, ON BEHALF OF THE COMMITTEE ON HEALTH, SAFETY AND ENVIRONMENT, AFL-CIO INDUSTRIAL UNION DEPARTMENT

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Mr. Chairmen, members of the Subcommittee. My name is Joseph Misbrener and I am President of the Oil, Chemical and Atomic Workers International Union. I am also a Vice President of the AFL-CIO Industrial Union Department.

The legislation that you have introduced will go along way in addressing the occupational disease problem in the United States.

The Purposes of H.R. 1309 are:

- To expand federal research and define worker populations at risk of occupational disease;
- To establish a federal program to notify individual workers within populations at risk of their disease risk;
- To authorize and direct the certification of occupational and environmental health centers throughout the U.S. and to provide for medical surveillance and monitoring programs;
- To protect workers identified and notified that they are at risk of disease from employer or insurance discrimination.

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Surveillance and Research

The bill requires the Secretary of HHS to conduct research into improving the means of surveillance of workers exposed to occupational health hazards, and into means of medical monitoring and treatment of workers exposed to occupational hazards.

It also requires the Secretary of HHS to undertake additional research to identify and define additional worker populations at risk of occupational disease.

Notification and Counseling

After a determination that a worker population is at risk of occupational disease, the Secretary is required to notify each individual of the risk along with its nature and potential medical impacts, and to provide appropriate counseling information, including the need for medical examinations.

Health Centers

The bill directs the Secretary to select from existing health facilities an appropriate number to be established and certified as occupational and environmental health centers on the basis of their ability to recognize, diagnose and treat occupational disease.

The centers will provide medical monitoring examinations and allied services for workers notified by the secretary that they are at high or increased risk of occupational disease.

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The actual costs of the medical monitoring examinations are to be paid for by the existing health care financing system.

Employee Discrimination

The bill protects employees from being discriminated against in their employment by employers, insurance carriers or any other person on the basis of the notification from the secretary of a disease risk.

If based upon the risk, a worker must be transferred to another job, all of the benefits of the first job transfers with him, including rates of pay and seniority.

In addition, the health care financing system may not discriminate in the payment of the costs of medical monitoring examinations or treatment.

Enforcement

Under the bill, the Secretary may bring action against violations of the act in federal court, including injunctions and/or restraining orders.

Mr. Chairmen, we congradulate both of you for assuming leadership on this issue. H.R. 1309 is a good bill and we look forward to working with you to enact it into law.

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Mr. GAYDOS. Thank you, Mr. Misbrener.

Let me say this. I'm very impressed, and I think I speak on behalf of the panel. I've been kicking around these halls for a number of years, and I've never seen a more distinguished group put together their thoughts, first submit good, all-inclusive papers and documents for our records, and then sit down in a shoulder-to-shoulder discussion and concisely make your point. You are very impressive. We feel very honored to have such a distinguished panel. I want to say that again.

Now, without me going any further, I want to call on my colleagues in their order of appearance here before the committee, and the first one will be the gentleman from Wisconsin, Mr. Petri.

Mr. PETRI. Thank you, Mr. Chairman.

I, too, would like to thank our panel for appearing and congratulate particularly Mr. Samuel on the good work you are doing in organizing the Labor-Environmental Coalition. Wisconsin is one of the States that has a very active coalition, and I had the privilege of having breakfast this morning with a number of the concerned members of that group.

I've been listening with a great deal of interest to your testimony. This is clearly a very important subject, and the bill is a good first start at trying to address it in a constructive way. I look forward to working with the other members of the panel and with you and others in trying to make it even better.

I have a couple of questions. One thing that I'm particularly interested in is the use of the Risk Assessment Board to try to channel, focus, and prioritize exposures. That's absolutely essential, because you could get into all kinds of areas.

We know that salesmen tend to get flat feet, for example, and so on, and we're not worried about that sort of trivial result. That's not trivial, I suppose, to someone who has it, but we're worried about serious, death potential type exposures, and the reliance on a panel of experts really is important in this area.

I'm curious to know if you have any ideas or thoughts on what we do about this. Toward the end, in the definition of terms in this bill, it says the term "population at high risk means an employee population exposed to hazardous occupational exposures within which an associated disease occurs at a rate 100 percent greater than a comparable worker population not exposed," and earlier it says, "population at increased risk at a rate of 30 percent."

Now, you may have subgroups of employees. For example, women employees may have 100 percent greater risk, but men employees not, because of the nature of how that works, and that may lower the average below 100 percent. You may have smokers at 100 percent greater risk and nonsmokers with a similar exposure at only a 10 percent risk, and yet they are at 100 percent greater risk because of the fact that they are smoking and exposed to this. Or you may have older workers at a higher risk and younger workers not.

What I'm trying to say is, you may have subgroups of the employee population who are, in fact, at a very high risk who would not be notified under this bill because the whole population is not at that high risk, and yet you would know who those high risk

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people are because of the fact that they were women as opposed to men or something of that sort.

Would anyone care to address that, or is there something we could do?

Dr. SELIKOFF. I might add that the way the bill approaches this makes sense in that, again, it is, in a sense, elastic. "Group" is undefined. It could be, let us say, a group of lead-exposed people, but the group could just as well be women exposed to lead who then have a special problem with regard to reproductive hazards.

Mr. PETRI. So it need not be all employees who are working in a foundry?

Dr. SELIKOFF. That's right. It need not be everybody in an industry. Let's say all individuals employed by power companies. Well, it could be the group of people who are blue-collar workers in powerplants who have been exposed over the years to carcinogenic dust and not necessarily the secretaries in the board rooms, so that, again, you can define the groups that are at high risk.

We cannot at the moment do this for all, but scientists are working on this, and we'll be able to do better and better to define groups in terms of their risk. This is something that we will be able to do to pinpoint those who should be under greatest surveillance.

Incidentally, things are happening very fast in science at the moment. I think we are all aware of the rapid progress that is being made in mocular biology and biochemistry and so forth. We can almost tell you which protein, which aminoacid on a gene or in a string of proteins changes in order to reflect some exposure.

One of the things that happens is that we get, in our lingo, adducts. These chemical changes occur long before there is any clinical evidence of disease so that it now becomes possible—it soon will be on the program of the day to follow people who have been exposed to see those who are showing the chemical changes which we will be able to identify as late resulting in neurological disease, or cancer, or heart disease, and so forth.

So what you are now considering is almost at the leading edge of science as well. It will be important for us to be able to follow people, as Mr. McCloskey said, from the time of exposure during the period of incubation, of latency, before disease appears, because we are soon going to be able to see which individuals within these groups are the ones who are going to come down with cancer. We may even be able to tell you, out of 100 cigarette smokers—heavy smokers—let's say two pack a day smokers—which 10 are the ones who are going to die of lung cancer.

So your bill then will help science in addition in developing the surveillance mechanisms which we are badly going to need and the research that is now being done, being led by the National Cancer Institute, the National Institute of Environmental Health Sciences, NIOSH, and so forth, so that, again, scientists have particular reason to be grateful to you.

Mr. GAYDOS. The Chair very reluctantly invokes the 5-minute rule. I'll come back to Mr. Petri.

Mr. Murphy.

Mr. MURPHY. Thank you, Mr. Chairman.

I apologize to the panel for being a little tardy. We had a very important caucus on the budget this morning that I had to attend.

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I would like to submit, Mr. Chairman, with unanimous consent, my opening statement for the record.

Mr. GAYDOS. Without objection, it is so ordered.

[The opening statement of Hon. Austin J. Murphy follows:]

OPENING STATEMENT OF HON. AUSTIN J. MURPHY, CHAIRMAN, SUBCOMMITTEE ON LABOR STANDARDS

The Subcommittee on Labor Standards has spent a great deal of time this year holding hearings on underground coal mining, and the handling of asbestos, and the health hazards experienced because of those occupations. The concern of the Subcommittee in these studies is ensuring that the victims of occupational diseases are fairly and promptly compensated.

My concern goes beyond compensation however. As a member of Chairman Gaydos' Subcommittee on Health and Safety since coming to Congress in 1977, I have been greatly disturbed by the lack of knowledge among workers and retirees about the substances they have been exposed to in the workplace, and the health effects of that exposure.

The responsibility of this Congress goes beyond guarantees of equitable compensation for injury; fair rates of pay; and adequate retirement benefits. It is our duty to utilize the advances in scientific study which have clearly determined a link between exposure to a given substance and possible illnesses, and to alert workers of their risks.

Daily, we hear stories about friends and neighbors who have benefitted from early detection and treatment of cancer. Eleven million Americans are now exposed to known carcinogens in the workplace. I believe we have an obligation to inform them of their increased risk so that they too can begin to monitor their health, and hopefully detect any abnormalities early enough that they can be successfully treated.

I look forward to the testimony to be presented to our subcommittees today, and to the expertise of our witnesses in this issue.

I am sure that all of us wish to establish a mechanism by which workers can be better protected from occupational disease. While we may differ over the means of providing that protection it is important that we remain focused on that objective.

Mr. MURPHY. I thank you very much, Mr. Samuel, too, for putting together such an excellent panel that has provided us with some information with which we members on the Education and Labor Committee are extremely concerned.

Just in recent years, it has really come to our attention the terrible disaster of diseases caused by the environment and by the occupational environment. So, as you know, we are seriously looking into ways in which we can, perhaps, alleviate that.

My first question of my only two, Mr. Chairman, is to Dr. Selikoff.

I ask you, do you think that we have a sufficient amount of information presently at hand to begin a notification process for a significant number of workers? We hear occasionally that more studies are needed, that more information is needed, before we would attempt to impose notification. Do you believe that we have enough information to begin the consideration of notification?

Dr. SELIKOFF. As with so many other things, the answer is yes and no. We badly need more information. We already have a good deal, and our point is to usg what we now have while getting the additional information about other groups and other exposures. We have a great deal now already, and some of the things that Mr. Stone and others have suggested have pointed to those populations where notification and surveillance of the high-risk groups would be in order.

The scientists, meanwhile—you won't be able to stop them—are going to study other things, and other chemicals, and other prob-

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lems, and we'll add to the information we have that will be able to be transmitted.

So the answer, again, is yes and no.

Mr. MURPHY. In other words, we have enough to keep us busy right now if we want to?

Dr. SELIKOFF. With our limited resources, we have so much more than we could do. In fact, we'll be back to ask you for more resources so that more people can be notified and more surveillance could be undertaken.

Mr. MURPHY. Speaking of resources—and I address this to the panel—do any of you have any cost estimate of what it would cost industry and/or the Government to conduct the type of comprehensive notification program that you have advocated? Who has a cost estimate?

Mr. HOWARD SAMUEL. Mr. Chairman, I wonder if I could introduce to respond to that question Mr. Sheldon Samuels—no relation—who is the OSHA environmental expert of the Industrial Union Department and was very closely connected with the drawing up of this bill. Could I ask Mr. Samuels to respond to that?

Mr. MURPHY. Certainly. You certainly may. One Samuels is as good as another.

Mr. GAYDOS. Let the record show that Mr. Shelly Samuels has been with the cause for around 40 years—as long as I can remember—and is now addressing the committee.

STATEMENT OF SHELDON SAMUELS

Mr. SHELDON SAMUELS. Thank you very much, Congressmen. I hope I've been as effective as you have over the same period of time.

By the way, our names are different. This is Howard Samuel, with no s, and I'm Sheldon Samuels, with an s. We don't change our names, because I have a union contract that says I've got seniority. [Laughter.]

The answer is that, as the Government does these studies, as the scientists do these studies, if there is routine notification, you are talking about the cost of a postcard; it's as simple as that. If you have to go back, the range of costs probably would not exceed, in very small, difficult-to-identify populations, $100 a worker. But if you average it out—and we do this routinely—we are talking about pennies. That's the process of notification. That's for the workers at increased risk.

Workers at high risk would need to be referred to diagnostic centers and so forth. The cost of referring these workers would probably be, in the course of a routine investigation, several dollars per worker.

Mr. MURPHY. Several dollars? I can understand a few cents in notification of a worker at medium or low risk, but what do you mean "several dollars"? Paying for the examination? Paying for the referral?

Mr. SHELDON SAMUELS. There is no mechanism outside of the existing health care system for paying for the examinations. The bill wisely takes the world with all its warts.

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We are saying to the health care system, the providers, you have something out there; there is some kind of coverage for workers for these purposes, and we'd like it applied in these cases.

Mr. MURPHY. OK. Thank you.

Thank you very much, Mr. Chairman.

Mr. GAYDOS. Let me just emphasize for the record that Chairman Murphy has acquiesced and agreed to these joint hearings. We are going to be in close cooperation. When I'm not around, he will be holding the hearings, and vice versa. He came late today because we had some commitments as far as the Democratic Caucus was concerned, which I understand had great ramifications this morning.

So let the record show that that is the situation, that these are joint hearings. I think it's imperative that we show that, because we hope to take a bill on to the floor the first of next year and hope to pass it, too. So we will need the entire committee, including the Subcommittee on Labor Standards which Mr. Murphy chairs, and this subcommittee, to effect that goal.

At this time, I call upon Mr. Chandler from the great State of Washington.

Mr. CHANDLER. Thank you, Mr. Chairman.

First of all, I want to thank you for calling Doctors Weill and Karrh today to testify. I appreciate very much your willingness to do that.

I have some concerns about this bill because of its potential cost. I think, with all due respect to the witness, that we have seen some evidence with NIOSH in their attempt to notify workers, I think in Augusta that it could cost as much as $300 per worker.

The Occupational Safety and Health Act was passed in 1970, I believe, to accomplish for workers in America a safe working place, and it went at it not in the way of notifying each individual worker but by placing regulations on the workplace and then attempting to alter the environment of the workplace so that it was a safe place to work.

I'm a very strong supporter of OSHA, and I think that that's the way we ought to go, and I'm wondering if we are not going in a totally new direction, placing resources in another department, another agency, and creating studies, a new bureaucracy, when perhaps what is needed is a strengthening of OSHA rather than this individual worker notification.

So for whoever would like to comment on that, I'd be interested in your view. Do we repeal OSHA when we adopt this? Isn't OSHA working? Can OSHA be improved? What do you think?

Mr. SHELDON SAMUELS. May I respond at the invitation of Howard Samuel to your last question first?

The bill covers a gap between the preventive efforts of OSHA and the existing systems of compensation and therapy. There is a gap that simply isn't covered by existing legislation. There is no competition.

The first question was to the cost.

Mr. CHANDLER. What is the gap?

Mr. SHELDON SAMUELS. The gap is that OSHA prevents exposures, reduces exposures, but there will always be a risk of disease, and this bill attempts to deal with that risk.

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When we say risk of disease, we don't mean the person has it, and until someone is disabled he's not covered by compensation. Until he has a clinically manifest disease, he is not really treated. So there is a gap where some kind of intervention can take place.

Dr. Selikoff pointed out in his testimony that if a worker has been exposed to asbestos, if he wants to reduce his risk there are a number of things that he can do, the most important of which may be, if he is a smoker, to simply stop smoking, so that there is a health promotion intervention that's appropriate. Health promotion is not part of the OSH Act, correctly. It is not a regulatory issue; it's an educational issue. It is not part of the compensation system. It's not part, unfortunately, of the systems of treatment, and this bill attempts to complete the structure of laws that we have in this country. Without this bill, we have an incomplete structure.

Mr. CHANDLER. Why don't we amend OSHA and keep all of this in the Labor Department instead of putting it in HHS, if that gap really does exist? And I question whether we have to tell asbestos workers that in order to reduce their risk of lung cancer it would be a good idea to quit smoking. I don't know how you could be alive today and not know that.

Mr. SHELDON SAMUELS. I'll let Dr. Selikoff address that particular issue, but in terms of where you place the program, it's essentially a health education and medical issue, not a regulatory issue.

Mr. CHANDLER. The OSHA bill addresses education as well, unless I'm mistaken, Mr. Chairman. Is that not correct?

Mr. GAYDOS. Yes; but a bone of contention is that it's not working. We have so much difficulty in trying to glean enough funds to make even the fundamental concepts of the bill work. That's a problem we have.

Mr. CHANDLER. But if we are going to have difficulty getting enough money to make OSHA work, how on Earth are we going to get enough money to make this act work?

Mr. GAYDOS. The fact remains that notification, per se, as I perceive it—since my colleague has asked me the question, let me make an attempt to respond. As I see it, when we talk about the void, the inadequacy of the existing act, assuming that is a truism, then the next step, based upon the Hopewell situation we had down in Virginia where notification would have helped the cause, our experience dictates that now, with all of the myriad responsibilities and requirements, such as inspections which are insufficient many times, the whole process and intent of OSHA that we feel, and I as chairman—we hope that we can convince our colleague to feel the same way—this deserves special and distinct consideration insofar as notification, as such, and shouldn't get mired down in the inadequacies of the existing OSH Act which we think would not work effectively.

We think that if we kept it apart, separate—and under this particular legislation, we are saying that we are going to effect that notification very readily and effectively. If we tie it into the OSHA we are going to get mired down again into a whole mess of things as far as budgetary problems and things like that.

That's my concept of it, and that's why I think this aspect of the problem, as substantiated and justified and explained by the profes-

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sionals that are here, indicates to me that there is good cause for us to take this approach rather than thrust it back into a very complicated act which has been under attack for the past 15 years and which has seen a lot of reluctance from succeeding administrations.

I give the blame to both Republicans and Democrats. As you know, our committee is nonpartisan, and we have found it so difficult to put into effect what we know is right that we think that this is the way to go now. It's open for debate, and that's why we're here, and I think you raise a good question. I don't know if I responded to it with all that talk, but that's my feeling.

Mr. CHANDLER. You have, Mr. Chairman. You know I respect you and the members of this panel. My goal is to utilize the most efficient and effective means of guaranteeing worker safety, and when we have an issue like this before us, I think we want to dig our teeth into it and make darn sure that we are getting the best results for our money. You have a lot of convincing to do to convince me that this is the best way to go.

Dr. SELIKOFF. May I try to convince him of that?

Mr. GAYDOS. If I may, Doctor, I'd like to respond to my colleague. I'll be right with you.

Dr. SELIKOFF. Sure.

Mr. GAYDOS. This is only the first hearing we are going to have.

Rod, we value your performance on the committee. You have been a very dedicated member, and what you say usually has some good bases and is well thought out, and we're probably going to have an awful lot of shifting of ideas, and discussions, and questions, and I hope we do, because that's the only way we are going to get down to fundamentally whether or not the legislation justifies the consideration we think it should be given at this particular time.

With that explanation, with my colleagues' permission, let me call on the doctor again.

Dr. SELIKOFF. I agree with Mr. Chandler in his desire to increase the efficacy range, and applicability of OSHA. I think that's something that we will in these next months look to, to see whether that can add to the approach that is being discussed.

I don't think there is any contradiction, however, with the desire to best utilize OSHA and what is being considered. For example, in World War II, our country employed 4.5 million men and women in our shipyards when we took over the shipbuilding and ship repairing of the free world, many of whom, of course, were in Washington and Seattle and Bremerton, and now, as you probably know better than I, the extraordinary disease incidence in your State as a result.

In 1978, the Department of Health, Education, and Welfare did include in a Social Security mailing a notice to all Social Security recipients, "Did you work in a shipyard in World War II? If you did, there may be some problem, and speak to your doctor about it," and so forth.

There are now over 2 million men and women currently alive who were exposed to asbestos in our shipyards in World War II and who now face the problems that we have been discussing. There would be nothing for our computer systems in Social Security to

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flag those who paid Social Security in a shipyard in World War II and provide all the notice that we want, and as a computer service it would be done very inexpensively, and yet all over the country people who currently don't remember now that they may have been exposed in shipyards would be made aware of this and would seek the necessary medical attention.

I have two other experiences very recently that bear on what you have been discussing. I'm a consultant to the National Education Association, and in New Jersey the New Jersey Education Association recently went to the State and said, "Look, we have *x* number of teachers who have been teaching in schools in which there has been friable asbestos; we're worried about them. We don't want any money; we don't want any compensation. Please, all we would like you to do is make available to them the opportunity for medical surveillance from here on in. Now, they all have health and welfare plans, and they have Blue Cross-Blue Shield or whatever prepayment plan is now available. We want you to, as part of their ongoing health surveillance, now include that kind of surveillance that would prevent any consequences of the exposures that they have suffered over the last 20 years." No money—all they want now is to try to save some lives.

Second, there has been a big problem in the chemical industry, and I'm sure you're going to hear from a very eminent physician who is with us today, Dr. Bruce Karrh of Du Pont, who has been very concerned with problems of how does he prevent disease among Du Pont employees, and there have been some innovative approaches.

For example, Dr. Karrh has made a film which has been shown to all Du Pont employees—I think they have; he will correct me if I'm wrong—about 100,000 employees—a film saying the company made a mistake in the past, some of you people have been exposed to asbestos; this was how the exposure occurred; don't have any more exposure; this is what you should do: stop smoking, don't do this, don't do that.

They have been educating their personnel with regard to this, not sending postcards—maybe they've done that too, I don't know—but certainly there will be many innovative ways of telling people what they have been exposed to, what they have to do now, and essentially it's what you are discussing: How do we prevent preventable disease? How can we do it best? How can we save lives?

Mr. GAYDOS. At this time, Doctor, I think you make some salient points; I think they are effective. I want to say this. A lot of people criticize this administration. Maybe it's justified, and maybe it isn't; it's not for me to say. But I want to give this administration credit in this respect. Along the lines we are thinking about, they already have begun the concept, and that is to give notification of inspections, and they have put into effect inspections in high-hazard industries. So, after a fashion, the principle is being established, and we're picking it up now and enlarging upon it.

I feel that that's going to be the bone of contention—whether or not that's the right thing to do. I'm looking forward with great expectancy as far as other witnesses are concerned as to that $300

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cost. That bothers me, because I don't think it's that high. Maybe it is, and maybe it isn't.

I look also in the background at the projections that that cost might shrink to insignificance if we take a look at it and save a person from developing a high intensity of a disease and subsequently being a burden on society and on our hospital care units. So it all works out that way.

Yes, Shelley.

Mr. SHELDON SAMUELS. I'd like to address that specific point made by Congressman Chandler.

The work that was done was done in Augusta, GA, it was work done under a National Cancer Institute grant given to the Workers Institute for Safety and Health.

The National Institute for Occupational Safety and Health participated in a demonstration which in fact showed, and is one of the reasons we feel that this act is so important, because we saved lives there.

Now, why was it $300? This was a group of workers exposed to beta-Napthylamine many years ago, most of them black, many of them illiterate, many of them over age 65, none of them working in the plant. They needed to be found, in an area spread between Spartansburg, SC, and Augusta, GA. Their addresses were gone. There was no way, without making intense effort, to discover them, no way of notifying them and bringing them into a center at the Medical College of Georgia for some kind of a program.

Because it was an experiment, because it was a demonstration, and because the National Institute for Occupational Safety and Health who had discovered this group 15 years earlier and did not at that point, for the cost of a postcard which in those days was 5 cents, notify them, they had to resurrect a complete record system.

I would hope that we would be able in the future to handle groups of afflicted high-risk workers differently so that we would not have those costs, and I would hope that the government, through its experiment in Augusta, GA, has learned how to do it.

Mr. GAYDOS. We do have some advance information. I would like to point out as a matter of record that we will be taking a look at some foreign countries as to what they have been doing and how they handle the problem and take a look at their experience on cost. We hope to have that information before the committee very shortly, hopefully with new panels coming in in September and October.

But pursuant to my promise, I come back to Mr. Petri, who is chafing at the bit over here.

Mr. PETRI. No. I'm learning. It's a very interesting hearing. I don't want to prolong it. I know there is another panel, too.

Mr. GAYDOS. It's a very interesting panel.

Mr. PETRI. I do have one or two questions.

I've been trying to figure out where the gap is between OSHA and this bill. I can certainly see a justification for it where people were exposed before OSHA or without knowledge of the risk at the time, or where there was nothing that could be done practically to protect them, and now they have retired and we want to notify them.

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But this bill is designed to notify people who are currently working, and that may be a sign it should be corrected so as to take into account the cases that we have been citing which are not people currently working that are being exposed to something that we can't do anything about. After all, we do try, through all kinds of regulations, to make the workplace safe rather than just saying, "Oh, well, it's high risk; too bad; you're going to die in a few years of asbestos, and we'll send you a postcard to tell you that." We have OSHA and a lot of other things to try to deal with it on the job.

That's one change we ought to be thinking about in this bill—rather than just notifying those who are currently working, notifying those who had past exposure; that would be helpful.

One question I have is, if any of the panel would know what the experience is in other countries or if any of the States have programs like this already in place or analogous programs, or is this complete ground-breaking? Has no one ever done this before anywhere in the world or in the United States?

Mr. MISBRENER. Let me say, Mr. Chairman, as Milan Stone and myself both are affiliates of the International Chemical and Energy Federation, which has a Worldwide Trade Secretariat, let me just mention to you that the efforts of that organization, which is some 8 million trade unionists around the world that are affiliated with this particular World Trade Secretariat; it has its own health and safety department, and it funnels out information.

The predicate for worker safety throughout the world seems to be that which is established in this country. That's an awesome responsibility when you think about it, when you think about the total work population in the world, and they look to the United States to provide the minimum standards.

Let me try to continue answering the question, if I may presume upon the committee, and address perhaps a personal response to Congressman Chandler's question.

For years and years—more time than we can think of—there has been a recognition of safety and the need for safety. I think the National Safety Council is a good example of an organization dedicated to the premise of safety. But let me say first off, in my experience as a worker—and I worked for 17 years as a refinery operator—the concept of safety in the refinery when I was working in the early 1940's and late 1950's was the idea that you watched for a broken rung on a ladder if you were going to go up a ladder, you wore steel-toed safety shoes so you didn't drop anything on your foot, and you wore a steel hat.

If you did all of those things, and you managed to avoid mashing your fingers or something of that nature, you were considered to be a safe employee, and many companies have industrial accident records that go thousands and thousands of hours without an employee hurt.

The facts are that only with the passage of the Occupational Safety and Health Act were we beginning to address the question of industrial disease, and that's so very important.

But the point with OSHA and the requirement—it never addressed the question really of requiring that employers identified possible hazards from a chemical in a disease instance to their em-

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ployees. That's why right-to-know bills—we have got the conflict now whether that's a State's right or a Federal right. I'm not sure which side this administration or this Congress is going to land on, whether it's State or Federal rights.

The question that immediately impacts the worker in terms of the Occupational Safety and Health Act is the establishment of threshold values. For example, in an oil refinery, which I am most familiar with, there is a deadly chemical, hydrogen sulfide. Inhalation of hydrogen sulfide in its pure form will kill you almost instantly in a sufficient dosage.

So there is a threshold limit value placed upon what is the maximum exposure that an individual can be exposed to over an 8-hour period that it won't kill him immediately. But we don't know what a lower level will do over a 20-year period; that's still a question. But an individual ought to have the right to know that he is a potential high risk in this area if that information is available to us.

Those threshold limit values that have been established—and there, gentlemen, let me tell you, regardless of what they are, they are not low enough, because no one can say with positive sureness that the threshold limit that has been established is a correct one. I think it's a guess in most instances.

But that threshold limit value that has been established for many chemicals and many products around the country serves as the lower limit for the world workers.

For example, in the Bhopal incident, we find that the threshold limit values in terms of the particular substance there that killed a number of people is much higher than it is here in the United States. So we don't have a standard around the world.

I say to you in all sincerity that the Occupational Safety and Health Act was an outstanding feature, one sorely needed, but which needs to be more aggressively implemented and must be supplemented by this type of legislation.

Mr. GAYDOS. Mr. Misbrener, Mr. Petri said he's sorry he asked the question. [Laughter.]

Mr. PETRI. No. I said I was sorry to take so much time, Mr. Chairman.

Mr. MISBRENER. A lawyer should know that you never ask a question you don't know the answer to.

Mr. GAYDOS. I enjoyed the answer, and I recognize Mr. Petri for an additional 2 minutes.

Mr. PETRI. One quick question that shouldn't require too long an answer. We have been focusing on people who are currently employed and certainly on those who are retired who were exposed, and you think of people who were working in World War II in asbestos in shipbuilding. Times change. Think of all the dentists and dental technicians who were exposed to x rays and who are now suffering, because of lack of knowledge at that particular time, that was only gained with the passage of time.

What would be the thinking on trying to notify young people as to the risks that they are assuming when they enter different occupations? If we know that you are going to have a higher risk working in a refinery and we do the best we can to deal with it, but you decide where you want to go and how much you are going to make—if we notify people that they are assuming that risk, that

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might help keep the refinery industry in business, and that would be a shared risk then between the employer and employee that we have in order to have a modern society. Do you have any thoughts about that? We don't want to keep young people in the dark.

Mr. MISBRENER. Oh, absolutely not, and I think that's exactly the point that we are trying to raise here in right-to-know and other legislation, that we must come out of the dark ages, we must begin to identify, we must educate, we must let people know the potential risk.

In my off-the-cuff remarks, I raised the question of chemical warfare. We are aghast at the idea that perhaps somebody or some country in an armed conflict will let loose the devastating consequences of chemicals for which there is no protection. That is repulsive to everyone. But I submit to you, that's exactly what's happening in our industrial society, and we try to hide it.

We are simply saying that it's time to take the lid off, it's time to do those things which we can do to protect people from these kinds of hazards. I view it in the same way that you have good driving habits.

Mr. GAYDOS. I always thought—and I'd like to spread it on the record—that we'd take care of these things by standards, but we've had so much difficulty under the procedures within the existing OSH Act of even adopting the most minimum standards that it's almost hilarious. There's our problem. Theoretically, we have the mechanism in the act, but it's not working. I don't know if it's the reluctance of this administration or past administrations; I'm not going to answer that, because I don't think I should; but a series of administrations, without party affiliation, have been so lax in passing those standards.

I live, as the crow flies, 1 mile from the greatest chemical producer and coke plant in the world; that's United States Steel's operation at Clairton, PA. We still don't have—and I just checked with our director here—a standard involving benzene, because they make toluene there and anhydrous ammonia and things like that. The act has been in effect 15 years, and we still don't have a standard.

So I guess, again, this is justification of why the committee is taking this path. Hopefully we are going to pass this so-called supplemental legislation, and that, in turn, will hopefully stimulate some action from the administration as far as the existing act is concerned. That's just my personal viewpoint.

Mr. MISBRENER. I'd only respond to that by saying that for 17 years I worked around benzene. I was required every year by my employer to take a blood test. Occasionally, individually—we never knew why—they just told us we had to take a blood test. They took us off the job and paid us for it—a little time off; it wasn't too bad. Occasionally, someone would be taken out of the plant and not reassigned there, given another job; we never knew why. Now, of course, we know why, and that has come about as a result of the Occupational Safety and Health Act and other disclosure acts requiring employers to notify their employees of the consequences of those things.

I would submit that what we are really talking about is the dangers of immediate death by exposure to these hazardous chemicals

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as opposed to the incubation period of long-time duration that will kill you eventually. We all know we have got to die; that's a fact; but the question is, how do we die, and when do we die?

Mr. GAYDOS. We had the same problem when we had the Mine Safety Act. When we provided for x rays, miners were very reluctant because of family obligations, to submit to the x ray. We even tried to get them to change work stations, and great problems occurred then because the pay schedule was different. When you are on the face, you are making more money than if you are back there setting posts. So we have that problem, we are dealing with human nature.

But I'm very happy—and I say this without reservation—that the committee is, I think, one now in hoping to find a common solution to the problems we have, that is as far as notification. How we do it, whether we do it by this act, or how we do it, I don't care myself, personally—I have no pride of authorship—as long as we effect some kind of a procedure to notify people so that they have a right, as Mr. Petri had pointed out—I think that was the thrust of his question—not to go into a particular occupation if they have inherent fears that it's going to be detrimental to their health, that they are not going to live as long—that if they have an expectancy of 80 years of age, because of the benzene they are working with they may only live to be 70—they are going to make that determination, hopefully, and maybe the pay element, and maybe the adjustability of safety procedures, and maybe some helmets with oxygen are going to solve all our problems with dust under the ground and above the ground. So we'll pass that when we can.

Let me say this to you. I am most impressed with the panel. We hope to hear more from Mr. McCloskey from the Sierra Club later on, at another time. I think he did an excellent job. I'm going to encourage the members of this committee and the other joint committee to hopefully read the record, because I think your statements are most direct and most beneficial.

Thank you so much for spending your time with us and spending your money to come down here and help your government work. Thank you very much.

Mr. GAYDOS. Panel number two consists of Dr. Hans Weill of Tulane Medical Center and Dr. Bruce Karrh of the Employees Relations Department of E.I. Du Pont, Inc. I would like to welcome the two members of the medical profession.

If you have brought some hidden support with you, I'd like you to identify them for the record, because I see the gentleman on your left, Doctor. I'm sure he's not a member of the CIA.

Dr. KARRH. My bodyguard.

Mr. GAYDOS. Thank you so much for your appearance. Dr. Karrh, are you going to start?

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STATEMENTS OF BRUCE KARRH, M.D., EMPLOYEE RELATIONS DEPARTMENT, E.I. DU PONT, INC., ACCOMPANIED BY JAMES T. WILLIAMSON, ATTORNEY; AND HANS WEILL, M.D., TULANE MEDICAL CENTER

STATEMENT OF BRUCE KARRH, M.D.

Dr. KARRH. I'll go ahead and start, Mr. Chairman.

My name is Bruce Karrh. I am a physician, and I am vice president, safety, health and environmental affairs for E.I. du Pont de Nemours & Co., Inc., in Wilmington, DE. With me is James T. Williamson, counsel, also from the Du Pont Co.

I, too, Mr. Chairman, appreciate the opportunity to appear before your subcommittee and Mr. Murphy's subcommittee today to discuss the issue of notification of workers. As a vice president of a large chemical company with concern for safety, health, and environmental affairs, I have the responsibility for the safety and occupational health programs, including the occupational medical program at Du Pont.

Mr. GAYDOS. Doctor, your prepared remarks will be made part of the record, if you don't mind, and if you want to proceed in the way you are doing, I think it would be most beneficial for the committee and yourself.

Dr. KARRH. Thank you, Mr. Chairman.

What I'd like to do is briefly summarize my prepared remarks and not go through the entire prepared remarks but give you a summary of those verbally and then be prepared to answer questions later.

Like other companies in the chemical industry, Du Pont takes a very keen interest in issues that bear on the health and safety of our employees. In May I had the opportunity to speak before your Subcommittee on Health and Safety on the similar subject of the hazard communication standard and on two new Chemical Manufacturers Association programs which are designed to expand communication of hazard information to the committees and to the public in general, and to the communities.

I again appreciate the opportunity to share my thoughts on the vital issues of hazard determination and communication being addressed in this hearing.

In recent years, there has been a growing awareness of the need for better communication to those employees who have the potential for exposure to hazardous chemicals.

Despite the volumes of information that have been generated, some employees may not have always been adequately apprised of the hazards that are posed by the particular substances to which they may have been or may be exposed.

Many companies have, however, put procedures in place for informing their employees of such hazards and of training them in proper safe handling techniques in the use of protective equipment. For example, it has long been Du Pont's policy to inform employees of known potential hazards encountered in the workplace, and we are certainly not unusual in industry in doing this.

Under our program, employees are trained prior to beginning a new assignment and then at least once a year on the names of the chemicals that each will be working with, the potential health ef-

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fects from overexposure, work procedures and standards, exposure monitoring results, relevant results from medical examinations, protective control measures, and appropriate new test or study results.

As Dr. Selikoff mentioned earlier in his response to a question, we did have the opportunity a few years ago to, in retrospect, notify workers and former workers who had worked with asbestos when new information came to light. At that time, we implemented a program that would help us make sure that people who may have been at risk were appropriately notified.

Also, as Mr. Chandler noted earlier today, OSHA does have the training and notification requirements within OSHA and once the OSHA hazard communications standard that we discussed at your hearings in May is in effect, it will be the logical vehicle for disseminating any additional information to individual employees.

For example, any information that is developed by NIOSH which would indicate certain populations are potentially at high risk of contracting occupational disease could be provided to employers. Under the standard, the employers could then be required to notify their employees of information that is relative to the employee's particular situation.

This approach utilizes the existing obligation of employers to keep their employees adequately informed. The employer is in the best position to review information that is developed by NIOSH or other agencies and determine its applicability to the processes and the work site that the employee is exposed to. The employer can determine the best means of communicating the information to the employee, and OSHA, using its inspection authority, can assure the effectiveness of such programs.

Only in those situations where specific instances of overexposure at an employer's site have been identified or the employer has determined that a reasonable potential exists for overexposure should the employee be especially notified that they are at high risk. This procedure will minimize the possibility that unaffected employees will be notified that they are in a high risk situation and the possibility that many workers who should be notified are not.

The employee who is notified he or she is at increased risk of disease will be most likely to approach his supervisor or the plant physician at that particular location for an explanation and should be able to get appropriate answers to the questions that the employee asks at that time.

Du Pont, like many other companies, is admittedly proud of its existing medical program and fear that the establishment of governmental centers to perform diagnostic and treatment services for employees could undermine or supplant these already existing programs.

We do not feel that it would serve employees well to have individual medical programs that provide continuous medical services to employees replaced by less accountable and less accessible governmental centers that may not be fully aware of exactly what are the consequences of a particular workplace.

Let me conclude my prepared remarks with a summary of the actions that, in my opinion, would facilitate the identification of

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workplace hazards and the communication of important health information to workers by better utilization of the existing systems.

NIOSH should continue its efforts to study workplace conditions and, applying research and risk assessment developed by other agencies, try to identify situations where the potential for significant increased risk of occupational disease exists. Additional resources as needed should be committed to NIOSH for this task.

The NIOSH studies should not be limited to occupational diseases caused by exposure to chemicals but should review any other factors, such as diet and stress, which could have an adverse impact on employee health, and try to do it as an all-inclusive type of informational and risk assessment program rather than as a specific splintered type of program.

Once NIOSH makes findings from its research, those results could be communicated to employers and, where appropriate, be published. The determination by NIOSH to publish their findings should not be constrained by artificial formulas or definitions of what constitutes a significant risk.

Toxicological test results and human exposure data do not provide findings that are always quantifiable in strict numerical terms. They must be analyzed by scientists applying professional judgment, with consideration given to all factors that could affect the outcome.

Once NIOSH publishes its findings, employers should be required to communicate this information in the manner and to the employees appropriate under the circumstances. Employers should also use this information to determine whether changes in the workplace are needed and whether specialized medical monitoring is called for. The information should also be provided to treating physicians to assist in diagnosing occupationally related diseases.

Mr. Chairman, that concludes the formal remarks that I had to make, and I'll be glad to answer any questions you may have after Dr. Weill's presentation, or whenever you desire.

[The prepared statement of Bruce W. Karrh follows:]

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PREPARED STATEMENT OF BRUCE W. KARRH, M.D., VICE PRESIDENT OF SAFETY, HEALTH AND ENVIRONMENTAL AFFAIRS, E.I. DU PONT DE NEMOURS & CO.

GOOD MORNING. I AM BRUCE KARRH OF E. I. DU PONT DE NEMOURS AND COMPANY. AS A VICE PRESIDENT WITH CONCERN FOR SAFETY, HEALTH AND ENVIRONMENTAL AFFAIRS, I AM RESPONSIBLE FOR THE SAFETY AND OCCUPATIONAL HEALTH PROGRAMS, INCLUDING THE OCCUPATIONAL MEDICAL PROGRAM AT DU PONT.

LIKE OTHER COMPANIES IN THE CHEMICAL INDUSTRY, DU PONT TAKES A KEEN INTEREST IN ISSUES THAT BEAR ON THE HEALTH AND SAFETY OF OUR EMPLOYEES. IN MAY I HAD THE OPPORTUNITY TO SPEAK BEFORE THE SUBCOMMITTEE ON HEALTH AND SAFETY[1] ON THE SIMILAR SUBJECT OF THE HAZARD COMMUNICATION STANDARD AND ON TWO NEW CHEMICAL MANUFACTURERS ASSOCIATION PROGRAMS DESIGNED TO EXPAND COMMUNICATION OF HAZARD INFORMATION TO THE COMMUNITIES AND TO THE PUBLIC IN GENERAL.[2] I AGAIN APPRECIATE THE OPPORTUNITY TO SHARE MY THOUGHTS ON THE VITAL ISSUES OF HAZARD DETERMINATION AND COMMUNICATION BEING ADDRESSED IN THIS HEARING.

IN RECENT YEARS THERE HAS BEEN A GROWING AWARENESS OF THE NEED FOR BETTER COMMUNICATION TO THOSE EMPLOYEES WHO HAVE THE POTENTIAL FOR EXPOSURE TO HAZARDOUS CHEMICALS.

THE PROCESS OF IDENTIFYING HEALTH HAZARDS AND NOTIFYING WORKERS WHO MAY BE EXPOSED TO THOSE HAZARDS TYPICALLY INVOLVES MANY HOURS OF RESEARCH AND CONSUMES SUBSTANTIAL RESOURCES. THERE MAY BE SEVERAL TOXICOLOGICAL TESTS PERFORMED, DATA COLLECTED AND REVIEWED BY TRAINED PROFESSIONALS IN TOXICOLOGY AND INDUSTRIAL HYGIENE BEFORE CONCLUSIONS ARE DRAWN AS TO THE TOXICOLOGICAL PROPERTIES OF THE SUBSTANCE AND WHAT EXPOSURE LEVELS ARE APPROPRIATE. THIS INFORMATION SHOULD THEN

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BE PROVIDED TO EMPLOYEES WHO WORK WITH THE MATERIAL AS WELL AS INFORMATION ABOUT THE ACTUAL EXPOSURE LEVELS, THE CONTROL MEASURES AND PROTECTIVE EQUIPMENT TO BE USED TO PROTECT THE EMPLOYEES FROM THE HAZARDS IDENTIFIED. EVEN THEN, EPIDEMIOLOGICAL STUDIES MAY BE NEEDED TO COMPLETELY DEFINE THE RISK DUE TO EXPOSURES IN THE WORKPLACE AND ASSURE BOTH THE EMPLOYER AND EMPLOYEE THAT THE SAFETY PRECAUTIONS USED ARE EFFECTIVE.

RESEARCH AND RISK ASSESSMENT

ALTHOUGH THERE IS MUCH TO BE LEARNED ABOUT MANY CHEMICAL SUBSTANCES, THERE ARE MANY ORGANIZATIONS AND PROGRAMS DEVOTED TO THE ACCUMULATION OF HUMAN EXPOSURE INFORMATION AND ANIMAL DATA, AND TO THE REVIEW AND ASSESSMENT OF THAT DATA. GOVERNMENTAL ORGANIZATIONS AND PROGRAMS SUCH AS THE NATIONAL CANCER INSTITUTE, THE NATIONAL TOXICOLOGY PROGRAM, THE NATIONAL SCIENCE FOUNDATION, AND THE NATIONAL INSTITUTES OF HEALTH ARE ACTIVELY ENGAGED IN CONDUCTING TESTS AND STUDIES INTO SUBSTANCES THAT COULD PRESENT A HEALTH HAZARD TO EXPOSED EMPLOYEES. FEDERAL AGENCIES SUCH AS THE ENVIRONMENTAL PROTECTION AGENCY (EPA), THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH), AND THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) ARE RESPONSIBLE FOR CONDUCTING RISK ASSESSMENTS AND PROMULGATING REGULATIONS TO PROTECT WORKERS FROM OVER-EXPOSURES TO HARMFUL AGENTS.

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NIOSH IS RESPONSIBLE FOR INVESTIGATING, COLLECTING AND REVIEWING INFORMATION REGARDING INDUSTRIAL WORKPLACES FOR THE PURPOSE OF DETERMINING ACTUAL OR POTENTIAL HEALTH AND SAFETY PROBLEMS THAT MAY NEED TO BE CORRECTED. NIOSH IS ALSO RESPONSIBLE FOR CONDUCTING RESEARCH INTO PROBLEMS CAUSED BY NEW TECHNOLOGY, AND FOR DEVELOPING CRITERIA FOR RECOMMENDING EXPOSURE LEVELS FOR PARTICULAR SUBSTANCES. IN THE EVENT AN EMPLOYEE'S REPRESENTATIVE OR AN EMPLOYER MAKES A REQUEST, NIOSH MUST DETERMINE WHETHER A PARTICULAR SUBSTANCE PRESENTS A HAZARD IN SUCH CONCENTRATIONS AS ARE USED OR FOUND IN THE WORKPLACE AND REPORT SUCH TO THE EMPLOYEE AND EMPLOYER.[3] SINCE NIOSH ALREADY HAS THE AUTHORITY TO PERFORM THE RESEARCH WHICH IS NECESSARY TO IDENTIFY THOSE EMPLOYEES AT A HIGHER RISK OF CONTRACTING AN OCCUPATIONAL DISEASE, THE ACCOMPLISHMENT OF THAT OBJECTIVE COULD BE ENHANCED BY THE COMMITMENT OF ADDITIONAL RESOURCES TO NIOSH SO THAT IT CAN FOCUS MORE ATTENTION ON THAT TASK.

IN ADDITION TO THESE AND OTHER GOVERNMENTAL PROGRAMS, MANY INDUSTRY SPONSORED RESEARCH ORGANIZATIONS SUCH AS THE CHEMICAL INDUSTRY INSTITUTE OF TOXICOLOGY, THE AMERICAN INDUSTRIAL HEALTH COUNCIL, THE FORMALDEHYDE INSTITUTE AND MANY OTHERS HAVE CONDUCTED TESTS AND STUDIES THAT HAVE PROVIDED VALUABLE RESOURCE MATERIAL FOR THE ANALYSIS OF THE TOXICITY OF PARTICULAR CHEMICALS. THERE ARE MANY EDUCATIONAL INSTITUTIONS AND INDEPENDENT ORGANIZATIONS SUCH AS THE INTERNATIONAL AGENCY

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FOR RESEARCH ON CANCER (IARC) AND THE AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS THAT ALSO REVIEW DATA AND RECOMMEND EXPOSURE LEVELS.

FINALLY, MANY INDIVIDUAL COMPANIES INVEST SUBSTANTIAL TIME AND MONEY CONDUCTING TOXICOLOGICAL TESTS, INDUSTRIAL HYGIENE SURVEYS, EPIDEMIOLOGY STUDIES AND EMPLOYEE TRAINING PROGRAMS ON PRODUCTS OR CHEMICALS PRODUCED OR USED IN THEIR PLANTS.

FOR EXAMPLE, DU PONT'S TOXICOLOGY PROGRAM, NOW FIFTY YEARS OLD, CENTERED IN DU PONT'S HASKELL LABORATORY FOR TOXICOLOGY AND INDUSTRIAL MEDICINE EVALUATES ABOUT 600 MATERIALS EACH YEAR AND CONDUCTS BOTH LONG-TERM AND SHORT-TERM ANIMAL TESTS. THESE STUDIES PROVIDE INFORMATION NEEDED TO ASSESS THE POTENTIAL RISKS THAT DU PONT PRODUCTS PRESENT TO EMPLOYEES AND DOWNSTREAM USERS, AS WELL AS HELP PROVIDE ADVICE TO DU PONT'S OPERATING DEPARTMENTS ON THE ACCEPTABLE LEVELS OF EXPOSURE. THEY ARE ALSO USED TO HELP SELECT ENGINEERING CONTROLS AND DETERMINE IF MEDICAL SURVEILLANCE IS REQUIRED TO PROVIDE SAFE WORKING CONDITIONS.

DU PONT'S EPIDEMIOLOGY PROGRAM CONDUCTS ROUTINE SURVEILLANCE OF ALL PLANT SITES FOR CAUSES OF MORBIDITY AND MORTALITY, INCLUDING INCIDENCE OF CANCER AND OTHER DISEASE CONDITIONS. IN ADDITION, SEVERAL COHORT MORTALITY STUDIES AMONG GROUPS OF EMPLOYEES EXPOSED TO MATERIALS SUSPECTED OR KNOWN TO PRESENT A SIGNIFICANT RISK OF CANCER OR OTHER DISEASE

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ARE CONDUCTED WHEN NEEDED. THESE STUDIES HELP DU PONT IDENTIFY THOSE JOB ASSIGNMENTS WHERE THE WORKERS SHOULD BE MORE CLOSELY MONITORED.

COMMUNICATION TO EMPLOYEES

I HAVE CITED ONLY EXAMPLES OF THE MANY ORGANIZATIONS INVOLVED IN COLLECTING AND ANALYZING TOXICOLOGICAL DATA AND INFORMATION ON HUMAN EXPOSURE TO CHEMICAL SUBSTANCES. DESPITE THE VOLUMES OF INFORMATION GENERATED, SOME EMPLOYEES MAY NOT HAVE ALWAYS BEEN ADEQUATELY APPRISED OF THE HAZARDS POSED BY THE PARTICULAR SUBSTANCES TO WHICH THEY MAY HAVE BEEN OR MAY BE EXPOSED. MANY COMPANIES, HOWEVER, HAVE PROCEDURES IN PLACE FOR INFORMING THEIR EMPLOYEES OF SUCH HAZARDS AND TRAINING THEM IN PROPER SAFE HANDLING TECHNIQUES AND THE USE OF PROTECTIVE EQUIPMENT. FOR EXAMPLE, IT HAS LONG BEEN DU PONT'S POLICY TO INFORM EMPLOYEES OF KNOWN POTENTIAL HAZARDS ENCOUNTERED IN THE WORKPLACE. UNDER OUR PROGRAM, EMPLOYEES ARE TRAINED PRIOR TO BEGINNING A NEW ASSIGNMENT AND THEN AT LEAST ONCE A YEAR ON THE NAMES OF THE CHEMICALS EACH WILL BE WORKING WITH, THE POTENTIAL HEALTH EFFECTS FROM OVER-EXPOSURE, WORK PROCEDURES AND STANDARDS, EXPOSURE MONITORING RESULTS, RELEVANT RESULTS FROM MEDICAL EXAMINATIONS, PROTECTIVE CONTROL MEASURES AND APPROPRIATE NEW TEST OR STUDY RESULTS. WHEN WE BELIEVE NEW INFORMATION IS SIGNIFICANT, WE WILL INFORM OUR EMPLOYEES IMMEDIATELY OF THE FINDINGS AND FOLLOW-UP AS FURTHER INFORMATION DEVELOPS.

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ALTHOUGH PROVIDING A WORKPLACE WHICH IS FREE FROM RECOGNIZED HAZARDS[4] ENTAILS ADVISING THE EMPLOYEES OF INFORMATION NEEDED TO PROTECT THEMSELVES FROM HARMFUL EXPOSURES, THERE HAVE BEEN NO LEGAL OR REGULATORY REQUIREMENTS WHICH HAVE SPECIFIED THE INFORMATION THAT MUST BE PROVIDED. SINCE ITS INCEPTION IN 1971, OSHA HAS RECOGNIZED THE NEED FOR BETTER EDUCATION OF WORKERS ON THE HAZARDS THEY ENCOUNTER WHEN WORKING WITH CHEMICALS, AND HAS PROMULGATED THE HAZARD COMMUNICATION STANDARD[5] TO ADDRESS THIS NEED. WHEN THAT REGULATION BECOMES FULLY EFFECTIVE, IT WILL PROVIDE FOR THE EMPLOYEES OF MANUFACTURERS TO RECEIVE TRAINING IN SAFE HANDLING AND INFORMATION ON THE HAZARDS OF CHEMICALS IN THEIR WORKPLACE. IN VIEW OF THE RECENT DECISION BY THE THIRD CIRCUIT COURT OF APPEALS IN THE UNITED STEELWORKERS OF AMERICA CASE,[6] OSHA WILL BE CONSIDERING EXPANSION OF THE APPLICATION OF THE STANDARD TO COVER NONMANUFACTURING EMPLOYERS. I BELIEVE THE STANDARD WILL PROVIDE THE MECHANISM FOR DRAMATICALLY IMPROVING ALL EMPLOYEES' KNOWLEDGE, AWARENESS, AND APPRECIATION OF THE CHEMICAL SUBSTANCES AND POTENTIAL HAZARDS IN HIS WORKPLACE. ONLY BY REVIEWING THE HAZARD COMMUNICATION PROGRAMS INSTITUTED BY INDIVIDUAL COMPANIES TO COMPLY WITH THE STANDARD'S REQUIREMENTS WILL WE BE ABLE TO EVALUATE THE EFFECTIVENESS OF THE REGULATION IN ACCOMPLISHING ITS OBJECTIVES.

ONCE THE OSHA HAZARD COMMUNICATION STANDARD IS IN EFFECT IT WILL BE THE LOGICAL VEHICLE FOR DISSEMINATING ANY

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ADDITIONAL INFORMATION TO INDIVIDUAL EMPLOYEES. FOR EXAMPLE, ANY INFORMATION DEVELOPED BY NIOSH WHICH WOULD INDICATE CERTAIN POPULATIONS ARE POTENTIALLY AT HIGH RISK OF CONTRACTING OCCUPATIONAL DISEASE COULD BE PROVIDED TO EMPLOYERS. UNDER THE STANDARD, THE EMPLOYERS COULD THEN BE REQUIRED TO NOTIFY THEIR EMPLOYEES OF INFORMATION RELEVANT TO THEIR PARTICULAR SITUATION.

THIS APPROACH UTILIZES THE EXISTING OBLIGATION OF EMPLOYERS TO KEEP THEIR EMPLOYEES ADEQUATELY INFORMED. THE EMPLOYER IS IN THE BEST POSITION TO REVIEW INFORMATION DEVELOPED BY NIOSH OR OTHER AGENCIES AND DETERMINE ITS APPLICABILITY TO HIS PROCESSES AND WORK SITES. THE EMPLOYER CAN DETERMINE THE BEST MEANS OF COMMUNICATING THE INFORMATION TO THE EMPLOYEE. OSHA, USING ITS INSPECTION AUTHORITY, WOULD ASSURE THE EFFECTIVENESS OF SUCH PROGRAMS.

ONLY IN THOSE SITUATIONS WHERE SPECIFIC INSTANCES OF OVER-EXPOSURE AT AN EMPLOYER'S SITE HAVE BEEN IDENTIFIED OR THE EMPLOYER HAS DETERMINED THAT A REASONABLE POTENTIAL EXISTS FOR OVER-EXPOSURE, SHOULD THE EMPLOYEE BE NOTIFIED. THIS PROCEDURE WILL MINIMIZE THE POSSIBILITY THAT UNAFFECTED EMPLOYEES WILL BE NOTIFIED THAT THEY ARE IN A HIGH RISK SITUATION AND THE POSSIBILITY THAT MANY WORKERS WHO SHOULD BE NOTIFIED ARE NOT. THE EMPLOYEE WHO IS NOTIFIED HE IS AT AN INCREASED RISK OF DISEASE WILL BE MOST LIKELY TO APPROACH HIS SUPERVISOR OR PLANT PHYSICIAN FOR AN EXPLANATION AND THEY SHOULD BE ABLE TO PROVIDE IMMEDIATE ANSWERS TO THE EMPLOYEES QUESTIONS.

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MEDICAL MONITORING

ONCE AN EMPLOYER HAS IDENTIFIED THOSE WORKERS WHO ARE POTENTIALLY EXPOSED TO SUBSTANCES UNDER REVIEW OR ARE AT RISK OF CONTRACTING AN OCCUPATIONAL DISEASE, HE IS IN THE POSITION TO DETERMINE IF AND HOW THOSE EMPLOYEES ARE TO BE NOTIFIED AND WHAT STEPS NEED TO BE TAKEN TO PROTECT THE WORKER FROM FURTHER EXPOSURES AND TO MONITOR THE EFFECTS OF PAST EXPOSURE. MANY COMPANIES PRESENTLY HAVE EXCELLENT PROGRAMS IN EFFECT TO PROVIDE SUCH MEDICAL SURVEILLANCE AND COUNSELING.

IF I MAY USE DU PONT AS AN EXAMPLE ONE MORE TIME, OUR MEDICAL PROGRAM UTILIZES THE TOXICOLOGY AND EPIDEMIOLOGY RESEARCH DESCRIBED EARLIER TO IDENTIFY WORKERS THAT REQUIRE CLOSER MONITORING AND MATERIALS THAT NEED TO BE CLOSELY CONTROLLED. WHEN EMPLOYEES IN PARTICULAR WORK ASSIGNMENTS ARE IDENTIFIED, THE MEDICAL DIVISION WILL DETERMINE THE APPROPRIATE MONITORING SCHEDULE NEEDED TO QUICKLY IDENTIFY ANY EXPOSURE RELATED PROBLEMS IN THOSE WORKERS. FOR EXAMPLE, ALL WORKERS WHO HAVE BEEN EXPOSED TO ASBESTOS IN THE PAST HAVE BEEN IDENTIFIED AND ARE GIVEN ANNUAL CHEST EXAMS.

DU PONT'S MEDICAL PROGRAM CONSISTS OF ROUTINE AS WELL AS SPECIALIZED MONITORING. IT EMPLOYEES ABOUT 125 PHYSICIANS AND OVER 200 NURSES AT APPROXIMATELY 100 DOMESTIC LOCATIONS. ROUTINE MEDICAL EXAMINATIONS ARE GIVEN EVERY THREE YEARS TO EMPLOYEES 40 YEARS OF AGE AND UNDER, EVERY TWO YEARS FOR THOSE BETWEEN 40 AND 50, AND EVERY YEAR FOR THOSE OVER 50 YEARS OLD.

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THE RESULTS OF THE EXAMS ARE SHARED WITH AND EXPLAINED TO EACH EMPLOYEE.

DU PONT, LIKE MANY OTHER COMPANIES IS ADMITTEDLY PROUD OF ITS EXISTING MEDICAL PROGRAM AND FEAR THAT THE ESTABLISHMENT OF GOVERNMENTAL CENTERS TO PERFORM DIAGNOSTIC AND TREATMENT SERVICES FOR EMPLOYEES COULD UNDERMINE OR SUPPLANT CORPORATE PROGRAMS. WE DO NOT FEEL THAT IT WOULD SERVE EMPLOYEES WELL TO HAVE INDIVIDUAL MEDICAL PROGRAMS THAT PROVIDE CONTINUOUS MEDICAL SERVICES TO EMPLOYEES REPLACED BY LESS ACCESSIBLE GOVERNMENTAL CENTERS.

CONCLUSION AND PROPOSALS

I WOULD LIKE TO CONCLUDE MY PREPARED REMARKS WITH A SUMMARY OF THE ACTIONS THAT IN MY OPINION WOULD FACILITATE THE IDENTIFICATION OF WORK PLACE HAZARDS AND THE COMMUNICATION OF IMPORTANT HEALTH INFORMATION TO WORKERS, BY BETTER UTILIZATION OF EXISTING SYSTEMS.

NIOSH SHOULD CONTINUE ITS EFFORTS TO STUDY WORKPLACE CONDITIONS AND, APPLYING RESEARCH AND RISK ASSESSMENTS DEVELOPED BY OTHER AGENCIES, TRY TO IDENTIFY SITUATIONS WHERE THE POTENTIAL FOR SIGNIFICANT INCREASED RISK OF OCCUPATIONAL DISEASE EXISTS. ADDITIONAL RESOURCES, AS NEEDED, SHOULD BE COMMITTED TO NIOSH FOR THIS TASK. THE NIOSH STUDIES SHOULD NOT BE LIMITED TO OCCUPATIONAL DISEASES CAUSED BY EXPOSURE TO CHEMICALS, BUT SHOULD REVIEW OTHER FACTORS SUCH AS DIET AND STRESS WHICH HAVE AN ADVERSE IMPACT ON EMPLOYEES HEALTH.

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ONCE NIOSH MAKES FINDINGS FROM ITS RESEARCH, THOSE RESULTS SHOULD BE COMMUNICATED TO EMPLOYERS AND, WHERE APPROPRIATE, BE PUBLISHED. THE DETERMINATION BY NIOSH TO PUBLISH THEIR FINDINGS SHOULD NOT BE CONSTRAINED BY ARTIFICIAL FORMULAS OR DEFINITIONS OF WHAT CONSTITUTES A SIGNIFICANT RISK. TOXICOLOGICAL TEST RESULTS AND HUMAN EXPOSURE DATA DO NOT PROVIDE FINDINGS THAT ARE ALWAYS QUANTIFIABLE IN STRICT NUMERICAL TERMS. THEY MUST BE ANALYZED BY SCIENTISTS APPLYING PROFESSIONAL JUDGMENT WITH CONSIDERATION GIVEN TO ALL FACTORS THAT COULD AFFECT THE OUTCOME.

ONCE NIOSH PUBLISHES ITS FINDINGS, EMPLOYERS SHOULD BE REQUIRED TO COMMUNICATE THIS INFORMATION IN THE MANNER AND TO THE EMPLOYEES APPROPRIATE UNDER THE CIRCUMSTANCES. EMPLOYERS SHOULD ALSO USE THIS INFORMATION TO DETERMINE WHETHER CHANGES IN THE WORKPLACE ARE NEEDED AND WHETHER SPECIALIZED MEDICAL MONITORING IS CALLED FOR. THE INFORMATION SHOULD ALSO BE PROVIDED TO TREATING PHYSICIANS TO ASSIST IN DIAGNOSING OCCUPATIONALLY RELATED DISEASES.

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FOOTNOTES

1. The Committee on Education and Labor Subcommittee on Health and Safety held hearings on May 7, 1985 on the Occupational Safety and Health Administration's Hazard Communication Standard. Bruce W. Karrh of Du Pont and Thomas F. Evans of Monsanto, testified on behalf of the Chemical Manufacturer's Association.

2. The Community Awareness and Emergency Response Program (CAER) is designed to inform the communities adjacent to chemical plants of the chemicals used or produced in the plants and to promote coordination and development of plant and community emergency response programs.

   The National Chemical Response and Information Center (NCRIC) is intended to coordinate four programs which provide hands-on assistance in responding to chemical emergencies; a chemical hazard information referral service; and training for those first on the scene at chemical emergencies.

3. Occupational Safety and Health Act of 1970, 29 USC 669, 671 (1970).

4. The General Duty Clause of the Occupational Safety and Health Act, 29 USC 654 requires as follows:

   > Each employer shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees.

5. The Hazard Communication Standard, 29 CFR 1910.1200 was promulgated November 25, 1983 with effective dates of November 25, 1985 and May 25, 1986.

6. United Steelworkers of America v. Auchter, No. 83-3554 (3rd Cir. 1985).

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Mr. GAYDOS. Let me ask you a couple of questions while they are fresh in my mind.

Doctor, do you think your position is well founded when you say that, should the centers be established, they may undermine some of the activities and programs that now exist in the various high-risk categories in industries that are carrying them on? How do you come to that conclusion?

Dr. KARRH. I come to the conclusion primarily because of the accessibility and the ability of these centers to be able to be responsive to all the situations that arise, and knowing the number of occupational medical centers that the Du Pont Co. operates for our 100,000 employees in the United States, we now operate about 100 occupational medical clinics ourselves for our own employees. We employ about 120 physicians and over 200 registered nurses just to staff these.

We feel that if these were to be supplanted by centralized governmental-type centers that were not as knowledgeable about those 100 workplaces as those physicians and nurses are, not only would they not be able to provide the type of medical surveillances needed, but these centers would be overwhelmed if they had to take on not only Du Pont's load but every other load in addition?

Mr. GAYDOS. Why wouldn't you continue on with what you are doing, for instance, in your industry and let these centers be adjunct to or supplemental? What's wrong with that concept?

Dr. KARRH. We would have to consider it at that time, depending upon how the bill subsequently came out, but we may determine that if these centers are going to be provided to others and we are paying a pretty heavy premium to provide our own centers to protect our own employees, there may become some economic incentive to remain competitive.

We also may find that we would have difficulty making sure we could maintain the integrity and credibility and competence of our programs if other centers came in.

Mr. GAYDOS. It would be just like any other type of program that's available. It would be an internal decision made by the board of directors of your company whether or not you would continue on, or partially dissolve, or cooperate, or what-have-you.

We have a lot of comparable situations that the corporate structure and communities in this country—and I have great respect for them—are doing in a lot of areas where we do have activities by the Federal or State Governments. It's a matter of internal decisions.

Do you recognize our problem here on the committee that we are not dealing with corporate giants all the time, that 80 or 90 percent of the people and the activities we are dealing with are small businesses, just a fraction of the type of business you are doing?

For instance, I'd say 80 or 90 percent of the people in front of us probably are lucky if they have one or two doctors on a part-time basis on their staff. You have 150 just assigned to this particular problem. You see? We have got to deal with people other than just the big corporate community.

Dr. KARRH. I understand your problem, Mr. Gaydos, and we hear that all the time, that if everyone were like Du Pont, we wouldn't do this, we wouldn't do that, but Du Pont becomes affected by the

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same laws and regulations that are passed for those people that you say are not Du Pont. So they would affect us in the same way.

But the notification of workers is not something that is size related. We notify our workers in the workplace at the time that they are exposed to the materials, and if the material they are exposed to presents a specific hazard to them, then we will notify them at the time they leave that workplace what that hazard may be and what they should look for in the future and whether or not we have programs that will help them follow up with it.

The same can be done by any size employer. The one advantage we may have is, we may have better access to information because of our own internal capability, but NIOSH, an existing agency established by law, has right now current intelligence bulletins and criteria documents that are disseminated to all employers, and all employers can have opportunities for the same access to information that we have on the same timely basis.

OSHA has a responsibility for requiring that employers notify and inform workers of the materials to which they may be exposed and in training them to those hazards, and those apply to employers the size of Du Pont and employers much smaller. So it's not a matter of Du Pont having certain capabilities that others don't have that makes the difference.

Mr. GAYDOS. Let me respond; I'll be a devil's advocate.

Dr. KARRH. I didn't anticipate you would agree with me.

Mr. GAYDOS. I'il make a thrust right to the heart of your problem. Allied Chemical is not a small company, and Allied Chemical was involved in Hopewell down in Virginia. In the James River today, you still can't eat fish out of there. That was during the time that we had OSHA in being.

I want you to know that this committee went down there, and we found out that notification and surveillance didn't work. I think even the big corporate structure has obvious areas of susceptibility and weaknesses inherent in their organizational chart and that many times they don't do what they profess to do.

So, in conclusion, what I'm probably saying in a very clumsy manner is that we tested you fellows for 200 years, and as recently as the last 5 or 6 years, and a lot of these things aren't working, and OSHA isn't working. So do you think that it doesn't behoove the committee, in all justification and for all sound, fair principles that, if something is not working, let's try to fix it and let's try to put something in effect that is going to effectively notify, hopefully effectively forestall these types of illnesses, and the waste of human life, and also the medical costs that are involved?

You know, we are not dealing with something that is perfunctory. We are dealing with some basic human rights, and that is a right to at least have a half-decent safe workplace.

Dr. KARRH. I can't speak for Allied, and I'm certainly not a defender of Allied, but we all learn by our past, and I certainly hope that we are all learning by things now and that we don't do something rash and foolish and duplicate the existing mechanisms that we have just because something happened that we have learned from.

We learned tremendously from the vinyl chloride carcinogenicity discovery back in late 1973-early 1974 that we didn't know prior to

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that time. We learned tremendously from the kepone incident that you referred to.

Allied, right now, has one of the better occupational health monitoring programs that there is in the United States and around the world, and it's because they as well as the rest of us learned from that.

I hope that we don't continue to do things on into the future based upon some of our lack of insight in the past.

Mr. GAYDOS. Doctor, let me just say, I would hope that the committee wouldn't follow the old hard way of learning, because that is a hard way of learning, particularly if it's your father or your relation that finds himself a victim of the lack of a simple notice. I just hope we will devise some other kind of method.

Dr. Weill.

STATEMENT OF HANS WEILL, M.D.

Dr. WEILL. Mr. Chairman and members of the subcommittee, I'm Hans Weill. I'm professor of medicine at Tulane University in New Orleans. I direct a large research program in occupational lung diseases. I am, in fact, an independent investigator, and my colleagues and I are in the business of generating a scientific data base to prevent the diseases which are under discussion. A brief resume is appended to my statement.

I'm pleased to present my views here on behalf of the American Thoracic Society and the American Lung Association in regard to notifying workers of risks to which they may be exposed in the workplace.

There can be no doubt that workers and others in our society benefit from an accurate and dispassionate characterization of the particular risks that we all face and dissemination of information regarding those risks.

Understanding the important concept that there are risks in our society which none of us would be willing or should accept and that there are others which are magnitudes lower and might compare favorably with well known and acceptable risks has been an uneven, evolutionary process.

The often inadequate communication between those who generate and interpret risk assessment data and those who are responsible for public policy decisionmaking and those who have to decide whether they want to assume those risks has, at times, been responsible for temporary setbacks in enhancing the accurate perception of risks in the workplace, and I would stress, Mr. Chairman, that these accurate perceptions are the basis for notifying and dealing with these risks. We have to know what they are and how they compare with other risks so that our action can be rational.

We obviously, therefore, propose in the first instance that there be a freer dialog between workers and management, government, and academia, the major players in the information gathering process.

There are problems in achieving these objectives. The scientific database on occupational risks, while at times substantial but underutilized, will often be found to be incomplete, or, worse, virtually absent. The nature of the hazard may be poorly understood or

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perceptions of it at times distorted. In prevention of disease, occupational or otherwise, we must focus on effects which impair bodily function or reduce longevity. These are the things we try to prevent.

All risks are not the same. For example, asbestos-related pleural plaques, a benign mark of exposure and lung cancer do not deserve our equal attention. In addition, the concept of dose-relatedness of most occupational risks must be understood and accepted. That is, risks vary by the level and duration of exposure required to cause the effects.

The statistical methods of expressing elevated risk may be difficult to understand, and lest there be any fear, I won't go into any detail about that. There are a number of ways of doing this. They can provide substantial assistance in understanding and therefore rationally acting on a potential hazard.

In the simplest instance, risk can be stated as a multiple of an expected incidence in the general population which is not exposed to the hazard that one is dealing with but comparable in every other way, including aspects of personal lifestyle and other factors.

There are insufficient data, unfortunately, which provide information on the influence of such confounders on occupational risk which makes the multiple or percentage increase aspects of any system which is put in place somewhat difficult but, fortunately, not impossible.

Increasing scientific investigation on these confounders and how they influence these multipliers of risks or risk ratios—more information is clearly needed, and that obviously means more effort in investigation.

How can we then identify and notify workers who are at increased risk of developing occupational disease? Critical to the accomplishment of this objective is the enlargement of a high-quality scientific data base which relates adverse health effects to qualitative and quantitative aspects of exposure, taking these other factors into account, like host factors and so forth.

The extent of our research efforts in this important area of public health is regrettably inadequate. Important contributions have come from many biomedical and other disciplines extending well beyond the traditional public health community. Physician investigators, dust physicists, environmental chemists, immunologists, bioengineers, cell or molecular biologists, biochemists, physiologists, epidemiologists, statisticians—that's just a partial list; it's a long list. It's an interdisciplinary, complex investigation team which develops the needed information to know about the risks and be able to quantify them, and this kind of broad-based research is the only reliable way to prevent these diseases.

The basis for rational and effective risk notification and management, in our view, is twofold. First, the level of excess risk which triggers the process must be determined. This threshhold risk level is a matter of social policy and appropriately might be promulgated by legislative guidelines.

Concern over true risks of 30 or 100 percent above expected rates—that is, 30 in 100, 300 in 1,000—true risks of that magnitude—excess risks—in the absence of occupational exposure, as specified in H.R. 1309, is appropriate. I would be concerned about

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those risks and probably would be unwilling to take them if I thought they were truly elevated to that level.

The second consideration is more complex, less easily, precisely articulated. The determination of a particular occupational risk requires careful evaluation of the extent and quality of the science supporting it. These are particularly important in the case of long exposure, long latency diseases. Judgments must be made whether workplace exposures are associated with or actually cause the disease in question.

The famous British medical statistician, Bradford Hill, wrote elegantly on this subject two decades ago. He indicated that studies must be weighed in regard to strength of the association, consistency of the findings, specificity, appropriate temporal relationship between the exposure and the disease, dose-relatedness of the response, plausibility of the causation, coherence, experimental evidence when it's available, and analogous relationships. Those are complex issues, they are long issues, and they require special expertise.

While this eminent statistician did not oversell statistics as a panacea for decisionmaking in this difficult area, clearly, statistical analysis provides critical information. It's part of the world in which we live. It's how these risk estimates are generated.

Importantly, it reveals the level of uncertainty, or certainty—whichever way you like to consider it—that an elevated risk is not due to chance—that the finding of an elevated risk is not due to chance alone. If predetermined elevations of risks are to trigger a process such as the one envisioned here which may be individually and generally disruptive, may be consumptive of limited resources which we have available, scientific studies must be examined for level of confidence, and an observed risk is indeed elevated.

Statistics cannot tell us, however, if such a risk estimate is a result of the workplace exposure or due to a confounder. Examples have been mentioned. Smoking, geography, socioeconomic effects—there's a long list of things that can confound these risk estimates. Again, that's not hopeless, but it's a problem and it has to be dealt with by experienced individuals.

Selection of a valid comparison population is equally a matter of critical importance in the evaluation of particular studies. The framers of H.R. 1309 recognized this, in my view, in my reading of the bill, that this second function that I referred to, carefully weighing the scientific evidence, requires special expertise and is likely to be as dynamic as the science being evaluated.

Establishing a national risk assessment board is a reasonable approach. The credibility of such a panel, though, depends on a number of factors. It must be comprised of respected scientists who are experienced in these issues; board members should represent the range of disciplines engaged in occupational disease research; I've already suggested a litany of the kinds of very diverse disciplines that are involved. The panel, through its composition, must, both in fact and perception, be balanced in its perspective. It sounds like preaching motherhood, but in fact it's important.

Lastly, the inclusion of nongovernmental scientists will help greatly to achieve the needed stature of the panel.

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Meeting the laudible objectives which are the subject of these hearings will face severe limitations in the available database upon which to make risk decisions and in professional resources. These deficiencies can be overcome by strengthening the support of relevant biomedical and other scientific research and training. The best science results from open competition for research funds which cannot be earmarked for certain existing centers.

I might say that my comment on that is given freely in spite of the fact that I direct a large NIG-supported center. Also, it seems to me that they should not be earmarked for existing programs or institutes.

Risk education might very well be coordinated by HHS, possibly by NIOSH, and carried out by those health care providers nationally who have demonstrated the appropriate competence and motivation to do so.

The predetermination of a category of facilities to serve this function seems counterproductive for the research, education, and clinical monitoring functions being considered by these subcommittees. A merit rather than closed shop approach is recommended.

We wish you well in your deliberations. We will be pleased to help in any way you deem appropriate as you develop this important program.

Thank you.

[The prepared statement of Hans Weill follows:]

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PREPARED STATEMENT OF HANS WEILL, M.D., ON BEHALF OF THE AMERICAN LUNG ASSOCIATION AND THE AMERICAN THORACIC SOCIETY

Mr. Chairman, Members of the Sub-committees:

I am Hans Weill and am Professor of Medicine at the Tulane University Medical Center where I direct a large research program in occupational lung diseases. A brief resume is appended to this statement. I am pleased to present my views here on behalf of the American Thoracic Society and American Lung Association in regard to notifying workers of risks to which they may be exposed in the workplace.

There can be no doubt that workers and others in our society benefit from the accurate and dispassionate characterization of the particular risks that we each face, and the dissemination of information regarding these risks. Understanding the important concept that there are risks which none in our society would willingly or should accept, and that there are others which are magnitudes lower and might compare favorably with well known (and acceptable) risks has been an uneven evolutionary process. The often inadequate communication between those who generate and interpret risk assessment data, those who are responsible for public policy decisionmaking, and those who must consider whether to assume these risks, has at times been responsible for temporary setbacks in enhancing the accurate perception of risks in the workplace. Freer dialogue between workers, management, government and academia will move us

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closer to the goal of effective communication about risks and rational choices to reduce them.

There are problems in achieving the desired objective. The scientific data base on occupational risks, while at times substantial but underutilized, will often be found to be incomplete, or worse, virtually absent. The nature of the hazard may be poorly understood, or perceptions of it distorted. In prevention of disease, occupational or otherwise, we must focus on effects which impair bodily function or reduce longevitity. All risks are not the same. For example, asbestos-related pleural plaques (a benign marker of exposure) and lung cancer do not deserve our equal attention. In addition, the concept of dose-relatedness of most occupational risks must be understood and accepted, that is, risk varies by the level and duration of exposure required to cause the effects.

The statistical methods of expressing elevated risk may be difficult to understand. They can, however, provide substantial assistance in understanding (and rationally acting on) the potential hazard. Risk can be stated as a multiple of an "expected" incidence in the general population which is unexposed to the hazard, but comparable in every other way, including the personal life style and and other factors which may influence the risk of the disease of interest. There are insufficient data which provide information on the influence of such confounders on occupational risks. Increasing scientific investigation which is focused on this important area of public health, and a willingness to use the resultant information in a balanced

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manner, are needed.

How, then, can we best identify and notify workers who are at increased risk of developing occupational disease? Critical to the accomplishment of this objective is the enlargement of a high quality scientific data base which relates adverse health effects to qualitative and quantitative aspects of exposure, taking into account potential host and other factors which may modify the outcome. The extent of our research efforts in this important area of public health is regrettably inadequate. Important contributions have come from many biomedical disciplines, extending well beyond the traditional public health community. Physician-investigators, dust physicists, environmental chemists, immunologists, bioengineers, cell and molecular biologists, biochemists, physiologists, epidemiologists and statisticians should be encouraged to work collaboratively to increase our fund of knowledge regarding the determinants of occupational disease. This type of broad-based research is the only reliable path to the prevention of these diseases.

The basis for rational and effective risk notification and management is two-fold. First, the level of excess risk which triggers the process must be determined. This threshold risk level is a social policy issue and may appropriately be promulgated through legislative guidelines. Concern over true risks of 30 and 100% above the expected rates (in the absence of the occupational exposure), as specified in H.R. 1309, is appropriate.

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The second consideration is, however, both more complex and less easily precisely articulated. The determination of a particular occupational risk requires careful evaluation of the extent and quality of the science supporting it. Particularly in the case of long exposure, long latency diseases, judgements must be made regarding whether workplace exposures are associated with, or caused the disease. The famous British medical statistician, Bradford-Hill, wrote elegantly on this subject two decades ago. He indicated that studies must be weighed in regard to strength of the association, consistency of the findings, specificity, appropriate temporal relationship between the exposure and disease, dose-relatedness of the response, plausibility of causation, coherence (derived from the natural history and biology of the disease), experimental evidence (when available), and analogous relationships.

While this eminent statistician did not oversell statistics as a panacea for decisionmaking in this difficult area, clearly statistical analysis provides critical information. Importantly, it reveals the level of uncertainty (or certainty) that an elevated risk is not due to chance. If predetermined elevations of risk are to trigger a process which may be individually and generally disruptive, and consumptive of limited resources, scientific studies must be examined for level of confidence that an observed risk is, indeed, elevated. Statistics cannot, however, tell us if such a risk estimate is the result of the workplace exposure, or a confounder (eg smoking, geography, socio-economic effects). The selection of a valid comparison

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population is critical, the subject of a recent conference at Oxford. These are only some of the methodological issues which must be considered in coming to a conclusion regarding the presence and extent of occupational risks.

The framers of H.R. 1309 recognize that this second function, of carefully weighing the scientific evidence, requires special expertise and is likely to be as dynamic as the science being evaluated. Establishing a national risk assessment board is a reasonable approach. The credibility of such a panel depends on a number of factors. It must be comprised of respected scientists who are experienced in these issues. Board members should represent the range of disciplines engaged in occupational disease research. The panel, through its composition, must in both fact and perception be balanced in its perspective. And last, the inclusion of non-governmental scientists will help greatly to achieve the needed stature of the panel.

Meeting the laudable objectives which are the subject of these hearings will face severe limitations in the available data base upon which to make risk decisions and in professional resources. These deficiences can be overcome by strengthening the support of relevant biomedical research and training. The best science results from open competition for research funds, which cannot be earmarked for certain existing centers (my conviction even though I direct a large NIH-supported center), programs or institutes. Risk education should be co-ordinated by HHS, perhaps NIOSH, and carried out by thoses health care providers nationally who have demonstrated the appropriate competence and motivation

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to do so. The pre-determination of a category of facilities to serve this function seems counter-productive. For the research, education and clinical monitoring functions being considered by these sub-committees: merit, rather than a "closed-shop" approach, is recommended.

We wish you well in your deliberations and would be pleased to help, in any way you deem appropriate, as you develop this important program.

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RESUME

Hans Weill

Hans Weill received his B.A. and M.D. from Tulane University. His training includes an internship at Mount Sinai Hospital in New York, and a residency in internal medicine at Charity Hospital and Fellowship in Pulmonary Diseases at Tulane, both in New Orleans.

Since 1962, Dr. Weill has been on the Tulane faculty. His current position is Professor of Medicine, Chief of the Pulmonary Diseases Division and the Schlieder Foundation Professor of Pulmonary Medicine at the Tulane University School of Medicine in New Orleans. He directs an interdisciplinary research program in occupational lung diseases, and for the past twenty years has been investigating the respiratory health effects of workplace exposure to such airborne inhalants as silica, asbestos, man-made mineral fibers, cotton, chlorine and isocyanates. His research team has produced information on the relationships between qualitative and quantitative aspects of exposure dose and indicators of respiratory disease. The results of these investigations have been published in many scientific journals and books and been used by federal regulatory agencies in setting occupational health standards, and have formed the basis for testimony in Congressional and judicial hearings.

Dr. Weill has consulted widely with federal agencies and with institutions in the private sector on occupational and environmental pulmonary problems. He has served as president of the American Thoracic Society (medical and scientific arm of the American Lung Association), and is on the certifying Subspecialty Board for Pulmonary Diseases and on the Board of Governors of the American Board of Internal Medicine. He recently completed a term as Chairman of the Pulmonary Disease Advisory Committee of the National Institutes of Health, and has several editorial responsibilities.

He was recently a Science and Public Policy Fellow at The Brookings Institution, where his project dealt with an analysis of the use of the scientific data base in asbestos-associated diseases in connection with formulation of public policy.

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Mr. MURPHY [acting chairman]. Thank you, Dr. Weill.

Do I take it from your testimony that you are of the opinion that more study or research is necessary before we implement H.R. 1309, or do I take your complimentary comments about H.R. 1309 leading the way in medical research in support of it?

Dr. WEILL. Yes. I'm supportive of a program to implement what these objectives seem to be. Yes, we do need much more information. We have information that can be better utilized. I certainly believe that. I don't think that a good program put into place needs to wait for all the information. We never have all the information we want, and I'm sure you've heard scientists, particularly research investigators, testify before that we need more research and we need more information. I'm afraid that's the way things are. However, we don't stop until we get all the data.

Mr. MURPHY. Do you agree with Dr. Selikoff then that we could commence a program of notification with the information that we have at hand?

Dr. WEILL. Yes, I do, as long as an appropriate review board, as is envisioned in the bill—we make some suggestions that may modify how it's selected—as long as such a review board appropriately deals with the risk estimations that are provided by the scientific database and action is taken on the basis of such advice or at least with that advice.

Mr. MURPHY. Thank you, Doctor.

I just want to thank Dr. Karrh also for his testimony.

I'm sorry the roll calls interrupted us, but I have read it through, and I want to commend Du Pont. It apparently is one of the companies with a very good system of notifying employees.

But I ask you, regarding notification, do you have any proposal for notifying retirees for afterdiscovered diseases or other individuals no longer working in the plant or at the site?

Dr. KARRH. We have had the opportunity to do that, to notify persons who were no longer working at the plant site. This was on the asbestos situation that I mentioned in my prepared comments.

Where there is scientifically valid evidence that people who have worked at a site are at increased risk—significantly increased risk from their previous exposures at that site and something can be done to help reduce that risk, or that you at least have an obligation to notify them, we feel that you do have that obligation and that it can be done by preparing an appropriate notification mechanism and conveying it to them. We did it with asbestos for our retirees and former employees.

The unfortunate thing is, it's not as simple as a postcard, as was mentioned earlier, because when you do that, you can't just tell someone that they have been exposed to something that may create a problem and leave it that way. You have to prepare some mechanism for appropriate followup, some mechanism to further give them additional information than what you can contain in the original notification. You have to be prepared for some type of medical evaluation if they should so choose to have that and then appropriate followup longer term from there.

But yes, it can be done. It's very difficult to do. It gets quite costly to do. That's why CDC estimated that it would take between

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$150 and $300 per person for the notification, because it's just not as simple as sending out a postcard.

Mr. MURPHY. Thank you very much, Doctor.

Mr. GAYDOS. Doctor, does your entity, in performing their notification, provide for work station changes for an employee should an examination indicate that he has some problems or potential problems?

Dr. KARRH. I'm not sure I understand your question, Mr. Gaydos.

Mr. GAYDOS. If he is working around tolulene and you feel that one of his x rays comes back a little tainted, do you provide another workplace for him or transfer him to another job?

Dr. KARRH. If we feel that a worker who is working a particular job that may have certain exposures on that job is being put at increased risk because of those potential exposures, then yes, we would make arrangements to transfer them to a job at which they would not have that exposure that puts them at increased risk.

Mr. GAYDOS. Then what do you do to fill that position where the increased risk existed?

Dr. KARRH. We would fill the position depending upon whatever the local arrangements and whatever the local agreements were between the employees and the management at that location as to how positions would be filled. It would be filled that way. It could vary a lot of different ways.

We would first, if we had an individual that we thought was at risk, look to make sure that we could not reduce that risk by a control of the workplace hazard itself better, and then it would only be because of unique susceptibility of the individual that we would move that individual from the job.

Mr. GAYDOS. That has been your procedure for how long?

Dr. KARRH. I don't know, Mr. Gaydos. I've been with Du Pont 15 years, and it was there well before I got there.

Mr. GAYDOS. Do you believe it's working?

Dr. KARRH. Yes, sir, I do. I can't sit here and tell you that we don't ever get any employee that doesn't develop some medical change as a result of having worked a certain job. So I can't tell you that the system is 100 perfect, but neither is any other system.

What we do, though, is, with our regular medical surveillance program, which provides periodic physical examinations to all employees, irrespective of job assignment, if we find some condition or medical change that we think could be job related, we investigate it sufficiently to determine whether it is or isn't, and then we take appropriate action to follow it up.

Mr. GAYDOS. What would that appropriate action be, again, for the record?

Dr. KARRH. The appropriate action, once we have determined that it was job related, was to look and see if we could reduce any exposures they may have. Secondly, once we had reduced them, we would decide whether or not they were still at increased risk, and if they were, then we would make arrangements to move them to another job at which they would not be at increased risk.

If we decided that it was not job related, that the condition they had was a personal medical condition, we would refer them to their personal physician and then share the information we had with their personal physician for appropriate followup.

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Mr. GAYDOS. Isn't it true that when you have a problem you take a look at it and you have a notification; if it's a formal or informal notification, a man is transferred, and that spot is immediately filled pursuant to the collective bargaining agreement? It's immediately filled by another individual.

Dr. KARRH. Well, if the job was a job that needed to be done, yes, it would be filled.

Mr. GAYDOS. That's right. The need is the primary consideration. It has to be done; you can't shut a plant down.

I'm not criticizing you. I'm just trying to set a scenario in a situation where we have some problems where human health is presumed to be expendable—I mean where one man, as indicated by his health examination, indicates that it's a hazardous condition there and yet another individual is thrust into the slot. That's a procedure that is occurring throughout all of American industry today, and I don't think you and I can dispute it.

Dr. KARRH. Their individual susceptibility—some people are more susceptible to certain things than are others. Some people have pre-existing conditions that make them more susceptible. That's why I say you evaluate the individual and determine. If it's the workplace, then you correct the workplace, and if you can't correct it, then you shut it down. If you can correct the workplace but it's a unique, individual susceptibility—maybe one out of 100,000——

Mr. GAYDOS. Off the top of your head, give me one instance of one of your operations that you shut down because you couldn't correct the situation—just one, right now.

Dr. KARRH. Beta-Napthylamine.

Mr. GAYDOS. Who makes it, and what do you do with it now?

Dr. KARRH. Nobody makes it in the United States.

Mr. GAYDOS. What is it?

Dr. KARRH. It's an aromatic amine. It's listed in the OSHA list of carcinogens.

Mr. GAYDOS. Why did you shut your operation down?

Dr. KARRH. We felt that we could not properly control the potential exposure to the material to prevent people from being at risk.

Mr. GAYDOS. Had you ever manufactured it before?

Dr. KARRH. We started manufacturing it in 1919, and we manufactured it until 1954.

Mr. GAYDOS. How about the people who worked in and around the area that was so dangerous? What did you do for them? Did you notify them and examine them?

Dr. KARRH. They have all been notified. Those that are still surviving—since we started in 1919, many of them——

Mr. GAYDOS. It's an ominous conclusion—those that are still surviving. How many died?

Dr. KARRH. Before you interrupted me, I was going to explain——

Mr. GAYDOS. I'm sorry.

Dr. KARRH. Since we started in 1919, many of the people were elderly at that time. There is a certain finite lifespan that we have, so some of them have not survived to this time, but those who are surviving are on medical surveillance. They were informed at the time what the problems were. It was published in the medical jour-

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nals in 1931, 1933, and 1934, and several years since. So it has been well publicized, the employees are all aware of it, and they are aware of why they are under medical surveillance.

Mr. GAYDOS. Your company did that, and I think you should be commended for it.

What about those that don't have the knowledge or the financial capability of making such notifications available and have a professional staff upon which to rely? Do you see then cause for this committee to be concerned about that type of activity out there?

Dr. KARRH. I think there is cause for this committee to be concerned about it, yes. I think we already have the mechanisms in place to take care of that through the OSHA and NIOSH entities that were created by OSHA and now through the OSHA hazard communications standard that is going into effect this year and that will require notification.

As I mentioned earlier in response to one of your earlier questions, the only advantage that a company the size of Du Pont has is our accessibility to data, and NIOSH can provide that data to employers, and then OSHA can require that the employees be informed by the employer.

Mr. GAYDOS. You know the ramifications of a standard and how it's enforced as distinguished from a piece of legislation with the penalties it directs. You can argue a standard up and down for 10 years, and you and I know that, and whether we get the standard or we implement it and then you have to have the administration, regardless of which party is involved; I'm not going to get into that. Any administration that has the responsibility of administering that standard, depending upon their philosophy, their desire, and their direction, that standard can be there or not be there, enforced, not enforced, and what-have-you.

We know, with our experience with OSHA—I don't know if you agree with me or not, but the committees found out that so many standards are not enforced, can't get the proper standards in, and when we do they are not enforced. All of these things are there.

So I can't understand the reluctance, with your enlightened corporate activity as far as our proposed legislation—your reluctance to support it when what you are doing is not in counterdistinction as to what this legislation tries. Why would you be against it?

Dr. KARRH. I can't say that I'm against the legislation.

Mr. GAYDOS. Everything you have said has been against it, insofar as you feel you don't need it, it's surplus, and the existing OSHA should be relied upon. That's how I interpret your remarks. I don't want to be argumentative. I'm just trying to bore down into why you would be so adamant against the enactment.

Dr. KARRH. I don't think I've been adamant at all.

Mr. GAYDOS. Can we count you as a supporter then?

Dr. KARRH. No, sir.

I guess I'm not against the concept. I think that we are putting in redundant legislation when we already have the mechanisms in place. All we have to do is make sure that they work. If you are concerned because OSHA standards don't work, OSHA was created by legislative act. We create another legislative body by legislative act, and it won't work any better than the first one we created. So

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why don't we work at fixing the one we have got and making sure it works and taking the best parts of H.R. 1309 and putting those in as part of OSHA and NIOSH and then deciding if we need another bill?

If we need another bill, we certainly would like to work with you in developing a bill that will fill that gap that needs to be filled.

Mr. GAYDOS. Doctor, I have high respect for you, and I'm not here to ridicule you, but I say you speak like a highly refined theorist. In principle, it's supposed to have worked that way, but on the committee here we find out from a practical standpoint it just doesn't work that way.

I would not be here wasting your time and mine if OSHA were working as we conceive it. But that's our problem. We feel that the facts indicate it's not working.

Dr. KARRH. Why do you think that the things from H.R. 1309—the entities that would be created from H.R. 1309 would work any better than OSHA if we can't fix OSHA?

Mr. GAYDOS. We feel that it's more defined, and we feel that it's more simplistic. It's outside of OSHA, per se, as such. It's separate legislation. We wouldn't get caught in the budget crunch, as we always do with OSHA. There are many reasons for it. We think it is very specifically spelled out.

If you allow things to be interpreted, enacted, and then implemented under legislative language, then you run into very difficult situations, because it just depends on who is doing the enforcement. We have a specific act. We feel that it is much more direct, easier to implement, and probably more effective. So that's one of our problems.

Let me say this for the record. I appreciate your coming. We want to have you back, because we would like to—if you could come back—to ask you if you would get really into fine detail as to the act itself, what it calls for, how it's remiss, where it's deficient, and what you would recommend in place thereof, and how it works again in the overall picture.

I appreciate your coming down here. If we do extend an invitation, I would hope you wouldn't be reluctant to come down, because I don't want you to misinterpret any statements that I made as being something personal to you or being in direct conflict to what your conscience dictates as the position you take. I don't mean that, and I don't want to do that, and if I have, I apologize on the public record to you. I don't want you to interpret my remarks that way.

We may differ, and I hope we do in the future even, and hopefully we'll make a convert out of you, but we will call you back if it's acceptable to you, and Dr. Weill, too, and we will go into more detail. I appreciate your coming down here.

Is there anything else you want to say on the record before you go, Doctor?

Dr. KARRH. No, sir.

Mr. GAYDOS. Doctor?

Dr. WEILL. No, Mr. Chairman.

Mr. GAYDOS. OK. I want to thank all of our witnesses for taking the time to appear for us today and for traveling here on their own expense.

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The Subcommittee on Health and Safety will meet in this room next week, July 24, same time, for our scheduled oversight of the National Institute for Occupational Safety and Health [NIOSH]. I'm going to ask them specifically whether they would like to take upon themselves this obligation with all the other obligations they have with their limited budget now.

Thank you so much for your attendance, gentlemen. We hope we can get you back again.

The subcommittee will stand in recess until the stated time.

[Whereupon, at 11:40 a.m., the subcommittees were recessed.]

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